

New Jersey Pinelands

COMPREHENSIVE

MANAGEMENT

PLAN



A Progress Report on the First Three Years of Implementation

December 1983

New Jersey Pinelands Commission

Pinelands Commission
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The Pinelands Commission

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December 1983

Mr. Franklin E. Parker
Chairman
New Jersey Pinelands Commission
Indian Hollow Road
Mendham, New Jersey 07945

Dear Chairman Parker:

I am pleased to transmit to you a staff report detailing the Commission's progress over the past three years of implementation of the Comprehensive Management Plan. I believe you will agree that the Commission can take great pride in the accomplishments to date.

Since the effective date of the Comprehensive Management Plan, January 14, 1981, seventy percent of the municipalities of the Pinelands have successfully revised local master plans and zoning ordinances and received certification by the Commission. Four of the seven counties in the Pinelands are now utilizing Master Plans which respond to the goals and objectives of the Pinelands Protection Act. Development interest is becoming more focused in areas designed for growth by the Plan, and development proposals are more attuned to the protection of the region's natural resources. The Pinelands Development Credit program, the most experimental aspect of the Plan, has taken its first steps through the efforts of the Burlington County Conservation Easement and Pinelands Development Credit Exchange, and in the private market place. The latter is evidenced by sales and pending development projects that will use PDCs to increase density.

Much, of course, remains to be done to fulfill the vision of the Pinelands National Reserve embodied in the National Parks and Recreation Act of 1978 and the Pinelands Protection Act of 1979. As the Commission embarks upon its review of the Comprehensive Management Plan, a number of recommendations will be offered by interested citizens and officials to further refine and improve our efforts. I hope that the historical overview provided in this report will prove helpful to the Commission as it evaluates such suggestions and moves forward to improve the provisions of the Plan. I am confident that this process will continue to protect the Pinelands' rich natural and cultural heritage, while safeguarding the region's important economic attributes.

Sincerely,

Terrence D. Moore
Executive Director

Acknowledgements

Preparation of this progress report would not have been possible without the help of the National Park Service, the Delaware Valley Regional Planning Commission, and the New Jersey Department of the Treasury.

The National Park Service not only assisted in the analysis of the permitting decisions contained in Chapter III, it also helped fund and undertake a number of the studies initiated since the Comprehensive Management plan was adopted. The support of James Coleman, Anthony Corbisiero, Michael Gordon, and Glenn Eugster in these projects is greatly appreciated, and the work undertaken by Michael Batcher, Robert Potter, Patricia Sheehan, and other Park Service staff members was invaluable.

The Delaware Valley Regional Planning Commission is not only helping the Commission develop an automated management information system, it also prepared the computer program and entered the data for the permitting analysis at a considerable savings to the Commission. William Green and Michael Ontko deserve a special vote of thanks for this.

Phil Booz and Sandy Gallino of the Treasury Print Shop did the typesetting, printing, and binding of this report, also at a considerable savings to the Commission.

The input of various public interest groups such as the Pine Barrens Coalition, the New Jersey Sierra Club, the New Jersey Conservation Foundation, the Environmental Defense Fund, the Coalition for the Sensible Preservation of the Pinelands, and many others have been extremely helpful during this initial stage of the CMP's implementation. It is expected that their continued efforts will help make this first formal review of the Comprehensive Management Plan by the Commission a successful one.

Finally, the efforts of those municipal and county officials, elected and appointed, who worked with the Commission during the last three years were indispensable, for without them there would be little of import to report. The process of revising master plans and ordinances was exceedingly difficult — one which required endless hours of work and some very tough decisions — yet hundreds of local officials worked diligently to fine tune the regional plan for use in their own communities.

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CHAPTER I

EXECUTIVE SUMMARY

On the third anniversary of its adoption, the Pinelands Commission has embarked upon a detailed review of the New Jersey Pinelands Comprehensive Management Plan. The review incorporates both the experiences of implementation and the comments of interested individuals and organizations. The objectives of the Three Year Review are to determine how the Plan has fared in addressing the critical need to protect the resources of the Pinelands National Reserve and to identify topics of interest which the Commission should address either through further study or amendments to the Plan in the future.

The Three Year Review established by the Comprehensive Management Plan includes a series of meetings between members of the Commission and individuals and organizations. Such meetings and submitted written comments provide the basic forum for gathering suggested topics of interest for Commission consideration.

Additionally, at the Commission's direction, the Commission staff has prepared this historical overview of the experiences of implementation of the Comprehensive Management Plan during the period January 14, 1981 through October 30, 1983. The purpose of this report is to provide a ready reference of the activities of the Commission, the progress of Plan implementation, and a description of what is yet to be done to fully complete the important tasks initiated when the Plan was adopted in November of 1980.

Much, as evidenced by this report, has been accomplished in the first three years of the Pinelands experience. The first steps taken in 1981 have matured to strong movements to fulfill the Pinelands Protection Act's objectives for the country's first National Reserve.

Conformance of local master plans and zoning ordinances has steadily increased from the period of initial reluctance of local officials in 1981 to the point, today, where thirty-six municipalities and four counties have completed the process of certification. This achievement, which is unsurpassed by other regional endeavors throughout the nation, is due to the Commission's continuing commitment to the flexible application of the Plan to accommodate locally identified needs.

Even within the context of this flexible implementation policy, conformance changes have not impaired the objectives of the Comprehensive Management Plan. Local adjustments have not resulted in drastic changes for the region as a whole.

Today, 26,000 acres more of the Pinelands critical resources have been added to state ownership than in 1979. An additional 26,000 acres are included in projects receiving financial support under Section 502 of the National Parks and Recreation Act of 1978. Both the Commission and the New Jersey Department of Environmental Protection are implementing a strategy to link existing state lands to form a large contiguous body of public open space in the Pines.

In reviewing development applications in the Pinelands, the Commission is successfully completing the transition of direct review to local implementation in certified municipalities. Indeed, among certified municipalities, only two applications for development have been "called up" for Commission review in accordance with the provisions of the Pinelands Protection Act. The Commission also simplified the development application procedures for minor development through the incorporation of the "duplicate filing" system into certified local ordinances.

Four thousand applications for development have been received during the last three years, placing severe strains on the operational efficiency of the eight member review staff. The system, however, continues to produce results consistent with the objectives of the Pinelands Protection Act and the Comprehensive Management Plan. Since the Plan was adopted, more than 85 percent of all development approvals have been for development in Regional Growth Areas. With the addition of Pinelands Towns, Villages, and Rural Development Areas, the approvals reflect 96 percent of the total. Clearly, development is being channeled away from the most sensitive areas of the Pinelands.

A difficult task, but one in which the Pinelands Commission has been able to strike a balance, is the issuance of Waivers of Strict Compliance from the standards of the Comprehensive Management Plan. It should also be noted that the time during which large development proposals may request waivers from the Plan on the basis of pre-existing municipal permits is coming to a close in early 1984.

Monitoring of the Comprehensive Management Plan and its impact on the State of New Jersey, as well as ecological impacts of development on the fragile Pinelands resources, has been of continuous concern to the Commission. Most recently, the Commission completed an economic analysis of the Plan's effect on the region. The study indicated that safeguarding the resources of the Pinelands was with few exceptions not adversely affecting the region's economy. Although the scope of the Commission's ecological study program has been limited due to funding constraints, several important studies have been completed.

A number of other events have occurred during the past three years which bode well for the future of the Pinelands.

The United Nations has designated the Pinelands National Reserve as an International Biosphere Reserve, focusing international scientific attention on the unique ecology of the area. At the state level, Rutgers University has created the Division of Pinelands Research whose research activities provide needed assistance to the Commission on a myriad of scientific issues. The Division held an Ecological Symposium involving scientists from across the country to set forth a framework for long term monitoring of the region's ecology.

At the local level, Burlington County, in the spirit of partnership envisioned by both the federal and state Pinelands legislation, created the Burlington County Conservation Easement and Pinelands Development Credit Exchange. This body has successfully purchased Pinelands Development Credits for later resale to the private market. Private sales of Pinelands Development Credits have been accomplished, and a transfer of credits to a development project in a Regional Growth Area has been approved by a local planning board.

Much, of course, remains to be done. While this report is not intended to be an issue oriented document, but historical in nature, some general observations on the future are unavoidable.

- The Commission must continue its efforts to open lines of communication with the remaining uncertified counties and municipalities of the Pinelands. A willingness to continue the Commission's policy of meeting with anyone, anywhere is critical to future success and will ensure continued progress
- Development Review procedures should be continuously scrutinized for opportunities to streamline the process, particularly through automation. The Commission should also be prepared to assist municipalities in the implementation of newly revised zoning ordinances through technical assistance, and where necessary, by approval of proposed local amendments. Better coordination with other state agencies on permit-related matters is also called for
- There is a need for continuous monitoring of both environmental and economic impacts of the Comprehensive Management Plan. The delicate balance of protecting the resources while ensuring economic growth requires the watchful eye of the Commission and the interested public
- Legislation to fulfill the recommendations of the Comprehensive Management Plan remains to be signed into law. Of particular importance are bills for in-lieu-of-tax payments to municipalities and the Pinelands Development Credit Bank
- Additional financing to support acquisition of critical open spaces and the operation of the Commission's programs must be sought and secured. Due to public financing constraints, private sources of funding should be identified and obtained
- Lastly, but of utmost importance, an expansion of the Commission's public information and educational programs is imperative to help improve public understanding of the Pinelands and the efforts to safeguard it for future generations. It is through this process that permanent success will be assured

Three years from now, a six year report will be submitted to the Pinelands Commission. With the assistance of the public through the review of the Comprehensive Management Plan, today, it is hoped that even greater achievement will be noted in 1986.

CHAPTER II

MUNICIPAL AND COUNTY PLANNING

Overview

The Pinelands Protection Act requires that each municipality and county located in whole or in part in the Pinelands Area revise its master plan and land use ordinances within one year of the Plan's adoption to implement the objectives and standards of the Pinelands Comprehensive Management Plan (CMP). Article 3 of the Comprehensive Management Plan established the procedures for municipal and county conformance, as well as the standards by which municipal and county plans and ordinances would be evaluated. This section provides a summary of the conformance process as it evolved and was implemented.

The conformance process began with the Commission's adoption of the Preservation Area Plan on August 8, 1980. Following the release of the draft plan for the entire Pinelands Area on June 6, 1980, the New Jersey Legislature amended the Pinelands Protection Act to give the Commission additional time to finalize portions of the plan dealing with the Protection Area. Adoption of a plan for the Protection Area was required to take place between November 14 and December 15, 1980. The adoption date for the Preservation Area plan remained August 8, 1980, as originally specified in the Pinelands Protection Act, with an effective date of September 23, 1980. To provide assistance to municipalities with land in the Preservation Area, the Commission staff prepared a "Handbook for Municipalities in the Pinelands Preservation Area," as well as a "Checklist of Municipal Conformance Requirements." These documents identified the substantive and procedural aspects of the Preservation Area plan which had relevance to the municipal and county conformance process and were distributed to the municipalities and counties with land in the Preservation Area.

Following the Commission's adoption of the Comprehensive Management Plan for the entire Pinelands Area and Pinelands National Reserve on November 21, 1980 (which took effect on January 14, 1981 following gubernatorial review), it became evident that a dual timetable for conformance in the 21 municipalities with land in both the Preservation and Protection Areas was a difficult administrative burden. Therefore the Commission, at its meeting of February 6, 1981, adopted Resolution Number 81-104 which authorized reconciliation of the local conformance periods for the Preservation and Protection Areas. The Commission found that since the Comprehensive Management Plan for the entire Pinelands Area superseded the plan for the Preservation Area, it was in the public interest to have a uniform date for the one year conformance period. The conformance period was thus established to run from January 14, 1981 to January 14, 1982 in both the Preservation and Protection Areas.

Another important Commission action which was occurring at this time was the establishment of the Commission's Conformance Subcommittee. With the vast amount of work that would be involved in the conformance process, the Commission determined that it would be advisable to have a subcommittee to oversee this process, to interact with local governments, and to report directly to the Commission on the progress that was being made. The Conformance Subcommittee was established with six Commissioners as members and immediately assumed its role as the principal liaison between the municipalities, the Commission staff, and the full Commission.

While the Commission was considering the procedural aspects of the conformance process, the Commission staff was continuing its preparation of conformance-related documents for local governments. In December 1980 an offer for local planning assistance grants for conformance activities was sent to each Pinelands municipality and county. Of the \$300,000 that the Commission had to allocate in fiscal year 1981, \$200,000 was earmarked for municipalities, \$50,000 was directed to counties, and \$50,000 was held in a contingency fund. Counties were given the option of deciding on the allocation method for their constituent

municipalities, but no counties selected this option. Approximately 45 of the 52 Pinelands municipalities expressed an interest in a grant. Two counties expressed an immediate interest in a grant while the others deferred their decision to a later date.

As the program for planning assistance grants was progressing, an informational packet was being prepared for each municipality. Following the delivery of 24 copies of the CMP to each municipality, the municipal packets were organized and delivered in February 1981. Included in this package were sepia and paper prints of management area boundaries, quadrangle sheets, vegetation maps, watershed maps, soil maps, and critical area maps; indices to the use of soil and vegetation maps; estimated acreage figures by management area and municipality; narrative descriptions of available water quality data; and other resource information. This package also contained the "Reference Guide and Check List for Municipal Conformance with the CMP," a document that identified each of the standards that municipalities would have to address, the method of implementation, and sources of information from the Commission and elsewhere.

Following the dissemination of this information, the next step was to hold a workshop for municipal officials in each county to explain and answer questions about conformance. Handouts were prepared which identified the elements and procedure for the conformance process. Simultaneously with the county workshops, each municipality was contacted and visited by the responsible staff members, and a cooperative relationship began to develop. At the same time a report was issued entitled "Municipal Procedure (Suggested Process)" which identified the roles of the Conformance Subcommittee, municipality, Commission staff, and full Commission, as well as the steps and timing needed to achieve conformance. It was this report which formed the basis for structuring conformance and identifying the multitude of tasks and interactions that would occur.

In the spring and early summer of 1981 contracts for the first round of planning assistance grants were finalized with most of the municipalities. The 1982 fiscal year budget adopted by the legislature provided an additional \$300,000 to local governments for conformance, bringing the total allotment to \$600,000. Although this additional money proved useful, a greater appropriation from the legislature would certainly have expedited the conformance process. Each Pinelands municipality received an allocation from this second round of grants, whether it was actively pursuing conformance or not, with the allocations based on the general complexity of the planning task. Immediately following this second round of allocations, approximately 31 Pinelands Area municipalities were under contract for planning assistance grants.

The late spring and summer of 1981 saw a large increase in the activity of the Conformance Subcommittee. The municipal meetings that the staff attended had at least demonstrated to the towns that the Commission was sincere in working with them and that the flexibility provisions of the CMP could be responsive to local needs. The initial meetings between the Conformance Subcommittee and municipal representatives focused on adjustments to Pinelands management area boundaries which the municipalities felt were necessary based on local goals and development patterns. When the municipalities realized that the subcommittee was responsive to these needs, the process began to move forward.

Another factor which contributed to the early delay in municipal conformance activities was the legislature's consideration of a bill (S-3335) sponsored by Senator Steven Perskie of Atlantic County which would have amended the Pinelands Protection Act and, indirectly, the Comprehensive Management Plan. Soon after the Plan went into effect in January 1981, Senator Perskie indicated that in his opinion the Pinelands Plan required revisions, and over the next six months a draft bill was prepared. This had the effect of dampening municipal interest in conformance since local officials did not want to spend money or effort in revising local plans and ordinances if the substance of the revisions was going to change. Many local officials also had misgivings about the Pinelands Plan and felt that the amendments might address many of these concerns. However, after Governor Byrne indicated his opposition to the bill in early July, no formal action was taken by the Senate committee which was considering the bill, and municipalities once again renewed their conformance activities.

During the summer of 1981 the first two municipalities, New Hanover Township and Wrightstown Borough, were fully certified by the Commission. Many municipalities had progressed to the point of having a workable set of management area boundaries and were

now involved in the preparation of land use elements and resource inventories. The subcommittee and Commission staff were busy discussing the standards for certification and what would satisfy the requirements, reviewing ordinances so as to be responsive to municipal requests, providing whatever assistance was needed, and studying various alternative approaches presented by municipalities such as revised review procedures and agricultural programs.

By the fall of 1981 an increasing number of municipalities had reached the master planning stage and were considering ordinance revisions. However, the difficulties associated with incorporating a complex document such as the CMP into local ordinances were becoming readily apparent, and the one year conformance period seemed too short. Even with a series of sample ordinances distributed by the Commission staff, and with technical assistance provided on inventories and plans, the nuances associated with each municipality's unique planning and zoning approach required a great deal of attention. A new Governor and State Legislature were elected at this time, and many municipalities delayed their conformance activities to see what the Governor's position would be regarding the CMP.

As the conformance year was drawing to a close in January 1982, the Commission was faced with a decision as to how best to respond to the Act's legal requirement that it ensure the effective implementation of the Pinelands Plan in those towns in which local planning was not completed. The Act required the Commission to "adopt and enforce such rules and regulations as may be necessary" to ensure implementation, but at the same time the Commission wished to continue the flexible administration of the Plan and to respond to the challenges of local planning. If conformance did not occur the Commission had the authority under the Act to assume planning and zoning powers within a municipality. Given these circumstances, the Commission opted for a four part approach to ensure implementation: the 36 communities which had agreements for planning assistance would continue for six months to operate under the development review procedures in effect during the conformance year; communities which were informally exploring planning alternatives had four months to formalize the process, in which case the six month extension would be granted; municipalities could formally submit for certification under Article 3 of the Pinelands Plan; and, in those communities that did nothing and were clearly in violation of the Pinelands Protection Act, the Pinelands Plan would be implemented, including the Commission's right of development approval. The latter option would also be used in towns which did not formally submit or did not formalize the conformance process. In this way the Commission felt that it was balancing its obligation to ensure implementation with its desire to provide flexible administration of the Plan.

The Commission's action prompted a flurry of activity among municipalities and counties. Four municipalities and four counties which had been informally exploring options formalized the process with contracts, and three municipalities and one county formally submitted for certification; in the latter category two municipalities later supplemented their application with updated information.

The Commission's adoption of the resolutions also resulted in a lawsuit from Atlantic County challenging the legality of the Commission's action. Galloway Township applied for and was granted leave to intervene. Atlantic County's appeal of the Commission's action charged that the resolutions adopted by the Commission violated the Pinelands Protection Act and Comprehensive Management Plan and were therefore illegal and that the Commission's action was arbitrary, capricious, and unreasonable. The case was argued before the Appellate Division on June 7, 1982 and was decided on June 16, 1982. The court held that the Commission's resolutions were a proper exercise of its power and that Atlantic County had no legal standing to challenge these resolutions. The appeal was consequently dismissed. At the suggestion of the Department of Interior representative on the Commission, the resolutions were submitted to Interior for its review on March 5, 1982. On March 31, 1982 the Department of the Interior responded that two of the resolutions constituted modifications to the Plan, and the Secretary of the Interior subsequently approved these two modifications.

Since additional towns and counties requested money for conformance, the Commission's action also prompted a review of the grant program. Another allocation of funds was made, with up to a 50 percent increase authorized based on need and available funds. The response to this Commission offer was overwhelming, and requests exceeded available funds. When the

fiscal 1983 budget was revised by the legislature to delete the third \$300,000 appropriation, many towns were left with insufficient funds to finance conformance. The status of the grant program is summarized in Table 2.1.

With the additional municipalities and counties that formalized the conformance process in the spring of 1982, 42 municipalities and six counties were either seeking certification or were already certified. The extension of development review procedures to July 16, 1982 provided additional time for municipalities and counties to complete their conformance-related activities. Municipalities which qualified for the extension now had to finalize their conformance-related revisions. The process of holding hearings on and adopting a master plan and ordinances is time consuming, but local governments continued their progress.

Table 2.1
Allocation of Conformance Grants

Municipality/County	Grant Amount	Municipality/County	Grant Amount
Barnegat	\$19,500	Manchester	\$24,000
Bass River	18,000	Maurice River	22,500
Beachwood	9,000	Medford Lakes	7,500
Berkeley	11,000	Medford	18,625
Berlin Borough	3,000	Monroe	24,000
Berlin Township	3,000	Mullica	16,625
Burlington County	10,000	New Hanover	1,000
Camden County	7,500	North Hanover	1,000
Chesilhurst	12,000	Ocean County	10,000
Corbin City	4,000	Ocean Township	16,000
Cumberland County	5,000	Pemberton	19,000
Dennis	11,000	Plumsted	7,000
Eagleswood	9,000	Shamong	14,000
Egg Harbor City	12,000	Southampton	16,000
Estell Manor City	19,500	South Toms River	5,000
Evesham	25,500	Springfield	1,500
Franklin	13,000	Stafford	11,000
Gloucester County	5,000	Tabernacle	21,000
Hamilton	30,000	Vineland	4,500
Hammonton	21,000	Washington	10,000
Jackson	25,500	Waterford	24,000
Lakehurst	5,000	Winslow	28,500
Little Egg Harbor	8,000	Woodland	10,000
		Wrightstown	1,000

By July 1982 most municipalities had adopted master plans and introduced land use ordinances. Many were unable to schedule the necessary meetings to adopt these ordinances on second reading, so brief extensions were allowed to provide adequate time. With so many municipalities following essentially the same time schedule, the work load for the Conformance Subcommittee and Commission staff intensified. It was common for the Conformance Subcommittee to meet with or discuss half a dozen municipalities at a single weekly meeting, and the subcommittee was meeting three times a month.

Throughout the summer and fall of 1982 the certification process accelerated, and the full Commission acted on municipal and county applications for certification. Between September 1982 and February 1983, the Commission acted on 35 separate applications for certification. Most of the municipalities that were initially certified during this period were certified with conditions, which meant that the municipality had 120 days to resubmit its master plan and/or ordinances with amendments for full certification. For the most part, the Commission's conditions constituted minor technical amendments to procedures or standards that had been inadvertently omitted by the municipality. Municipalities were also able to modify the Commission's conditions, provided that a comparable result was obtained. When municipalities chose to modify the Commission's conditions, it often involved a series of meetings with the Conformance Subcommittee to agree to the revisions. In some of these cases, and in cases where the municipality inadvertently neglected to schedule the adoption of amendments, short extensions of the time limit for resubmission were granted pursuant to Section 4-104 of the Plan.

By April 1983 many of the municipalities which received conditional certification over the previous several months were completing the required revisions and resubmitting them to the Commission. As of March 1983, the Commission had fully certified 14 municipalities, but between April and September of that year 21 applications for full certification were acted on by the Commission. Each one of these applications (most were responses to conditional certification, but some were new applications) was fully certified by the Commission without conditions. Two additional applications were acted on in October 1983, one of which received conditional certification and the other, a response to a previous conditional certification, received full certification.

Status and Effect of Municipal Conformance

The status of municipal conformance as of October 1983 is given in Table 2.2. The categories include those towns that are certified without conditions, those that are certified with conditions and are in the middle of their response period, those that are certified with conditions and did not respond, and those that have not submitted for certification as of this date.

Table 2.2
Status of Municipal Conformance

Certified Without Conditions

Barnegat Township	Medford Township
Bass River Township	Monroe Township
Beachwood Borough	New Hanover Township
Berlin Borough	North Hanover Township
Berlin Township	Ocean Township
Chesilhurst Borough	Pemberton Township
Corbin City	Plumsted Township
Dennis Township	Southampton Township
Eagleswood Township	Springfield Township
Estell Manor City	Stafford Township
Evesham Township	Upper Township
Franklin Township	Vineland City
Jackson Township	Washington Township
Lakehurst Borough	Waterford Township
Little Egg Harbor Township	Winslow Township
Manchester Township	Woodbine Borough
Maurice River Township	Woodland Township
Medford Lakes Borough	Wrightstown Borough

Certified With Conditions (in middle of response)

Berkeley Township

Hamilton Township

Certified With Conditions (did not respond in time frame)

Port Republic City

No Certification Submission

Buena Borough

Hammonton Town

Buena Vista Township

Lacey Township

Egg Harbor City

Mullica Township

Egg Harbor Township

Shamong Township

Folsom Borough

South Toms River Borough

Galloway Township

Tabernacle Township

Weymouth Township

As of October 1983, 36 municipalities, nearly 70 percent of all municipalities in the Pinelands Area, have had their land use plans and ordinances fully certified by the Commission as being in conformance with the Pinelands Comprehensive Management Plan. Of the 13 municipalities which have not yet submitted, at least four have adopted master plans which meet the standards of the Comprehensive Management Plan. A map showing certified, conditionally certified, and non-certified municipalities and areas within the Pinelands National Reserve is included with this report.

With so many of the Pinelands municipalities now in full conformance with the Pinelands Plan, there are several generic types of changes which can be identified. To alleviate the concern expressed by many municipalities that the development review process was too time consuming for small development applications, the Commission developed a procedure whereby applicants for minor development in certified towns need only submit to the Commission a duplicate copy of the application that was submitted to the town, thereby eliminating a step in the process. Most of the certified towns included this provision within their ordinance. The exemption for substandard lots, which was the Commission's grandfather clause for owner-used one acre lots, was included in the ordinances of most municipalities. An innovation implemented by a few towns concerning this provision was to identify each lot that could be developed if one of the restrictions was eliminated, and then to reduce the density in a management area and eliminate the restriction, thereby maintaining the overall limit on the number of units which could be built.

Protection Area municipalities also had the opportunity to exercise considerable discretion in the designation of individual zoning districts within Pinelands management areas. Each management area provided a set of permitted and optional uses, as well as an overall density limit and minimum lot sizes. Within this framework, municipalities established different zoning districts to segregate uses and densities, thereby maintaining considerable control over the local land use pattern. Municipalities with Regional Growth Areas also had the task of providing zoning districts in which bonus densities could be achieved through the use of Pinelands Development Credits. Two towns with Regional Growth Areas, Medford Lakes and Berlin Township, were not required to accept PDCs because of the developed character of their Regional Growth Areas, and a third town, Stafford Township, was only required to accept them in a small area due to the ownership and subdivision pattern in much of its Regional Growth Area.

One type of generic change which was permitted in Preservation Area municipalities was the designation of infill settlement areas. Recognizing that there were small, compact clusters of development where additional development would not impact the overall values of the Preservation Area and where land use alternatives contained in the Pinelands Plan were not very viable due to small lot sizes and surrounding development, the Commission allowed municipalities to designate these areas for moderate additional growth. A similar type of designation was made in other management areas where clusters of residential, commercial, and industrial development were identified and zoned appropriately.

An administrative issue which arose early in the conformance process, and which ultimately had an effect on the land management program, concerned the Commission's authority to directly implement and enforce the Pinelands Comprehensive Management Plan in areas which lie within the Pinelands National Reserve but outside of the Pinelands Area. The exclusion area encompasses approximately 221,000 acres, of which 212,000 acres, or 96 percent, are within the delineated coastal area which is regulated by the Department of Environmental Protection (DEP) under the Coastal Area Facility Review Act (CAFRA). The other 9,000 acres are located in four townships with other lands in the Pinelands Area. The Commission asked the Attorney General for legal advice as to whether the exclusion area was subject to the municipal conformance requirements of the Pinelands Plan.

The Attorney General's opinion, which reviewed the legislative history of the National Parks and Recreation Act of 1978 and the Pinelands Protection Act, concluded that the legislative intent was to have direct implementation and enforcement of the Comprehensive Management Plan by the Commission only in the Pinelands Area. The opinion also concluded that the Commission could encourage local governments to take the initiative toward implementing the Plan in the National Reserve outside the Pinelands Area through the Municipal Land Use Law, the County Planning Act, master plan reexaminations, and the use of Commission planning assistance grants. Within the delineated coastal area the Plan was to be implemented and enforced through the CAFRA process administered by DEP. Three municipalities, Estell Manor City, Ocean Township, and Bass River Township, accepted planning assistance grants for conformance in the National Reserve.

As a result of these initiations in these three municipalities, 24,000 acres of the 212,000 acres in the National Reserve subject to CAFRA are also covered by municipal master plans and ordinances approved by the Pinelands Commission. Nine thousand acres of the Pinelands National Reserve in the townships of Evesham, Medford, Jackson, and Plumsted are not covered by either Pinelands or CAFRA standards. Of the 188,000 acres in the National Reserve governed exclusively under CAFRA, 69 percent, principally coastal wetlands, is within a Forest Area under the Pinelands Plan land designation program. Twenty-one percent of this area is classified Regional Growth Area and eight percent as Rural Development Area.

The 36 municipalities that have been fully certified by the Pinelands Commission represent 69 percent of all municipalities in the Pinelands Area. Of the approximately 937,000 acres located within the Pinelands Area, 595,000 acres are now governed by approved municipal plans and ordinances. This amounts to 64 percent of the entire Pinelands Area. The management areas with the largest percentage covered by approved plans and ordinances are the Military and Federal Installation Areas, with 89 percent, and the Preservation Area, with 72 percent. Pinelands Towns and Agricultural Production Areas have the smallest percentage covered by certified plans and ordinances, 37 percent and 46 percent, respectively.

Management Area Adjustments

During the conformance process municipalities made revisions in the Protection Area management area boundaries that resulted in changes to the Commission's land management program. The resulting land allocation by management area in fully certified municipalities is shown in Table 2.3, and the revisions to the Commission's land capability map is shown on a map at the back of this report.

Table 2.3
Land Management Area Allocations In Fully Certified Municipalities
(all numbers in acres)

County	Municipality	Preservation District	Special Agric. Prod.	Infill Dev.	Forest Area	Agric. Prod.	Rural Dev.	Regional Growth	Pinelands Towns	Pinelands Villages	Military & Fed. Inst.	Total
Atlantic	Corbin City	0	0	0	65	0	0	0	0	0	0	65
	Estell Manor City	0	0	0	32,555	730	0	0	0	1,695	0	34,980
Burlington	Bass River Twp. ¹	41,245	0	0	6,275	0	530	0	0	1,830	0	49,880
	Evesham Twp	0	0	0	1,240	0	8,440	765	0	0	0	10,445
	Medford Lakes Borough	0	0	0	0	0	80	720	0	0	0	800
	Medford Twp.	2,210	1,100	0	955	35	7,200	8,275	0	0	0	19,775
	New Hanover Twp.	0	0	0	0	0	0	0	0	0	11,380	11,380
	North Hanover Twp.	0	0	0	0	0	0	0	0	0	470	470
	Pemberton Twp.	7,010	885	0	5,760	8,291	2,781	6,648	0	100	4,620	36,095
	Southampton Twp.	0	0	0	5,495	7,850	5,715	895	0	0	0	19,955
	Springfield Twp.	0	0	0	0	0	0	0	0	0	360	360
Camden	Washington Twp.	58,820	8,185	0	0	0	0	0	0	1,150	0	68,155
	Woodland Twp.	38,040	20,903	1,340	0	0	0	0	0	760	0	61,043
	Wrightstown Borough	0	0	0	0	0	0	0	0	0	807	807
	Berlin Borough	0	0	0	0	0	0	200	0	0	0	200
	Berlin Twp.	0	0	0	0	0	260	55	0	0	0	315
	Chesilhurst Borough	0	0	0	0	0	0	1,380	0	0	0	1,380
	Waterford Twp.	13,790	0	0	290	2,555	2,645	3,045	0	195	0	22,520
	Winslow Twp.	480	0	0	6,630	7,175	7,040	6,530	0	1,720	0	29,575
	Dennis Twp.	0	0	0	13,040	0	880	0	0	1,580	0	15,500
Cape May	Upper Twp.	0	0	0	11,900	0	890	0	0	542	0	14,332
	Woodbine Borough	0	0	0	640	0	165	0	4,078	0	0	4,883
Cumberland	Maurice River Twp.	0	0	0	34,090	0	5,770	0	0	2,578	0	42,438
	Vineland City ¹	0	0	0	2,480	260	720	0	0	0	0	3,460
Gloucester	Franklin Twp	0	0	0	0	4,460	8,200	0	0	0	0	12,660
	Monroe Twp.	0	0	0	4,275	2,290	7,050	6,475	0	0	0	20,090
Ocean	Barnegat Twp.	5,809	0	0	5,243	0	0	2,854	0	75	0	13,981
	Beachwood Borough	0	0	0	0	0	0	450	0	0	0	450
	Eagleswood Twp.	1,126	0	0	1,290	0	0	0	0	0	0	2,416
	Jackson Twp.	9,240	0	0	4,820	0	3,780	3,540	0	2,474	6,330	30,184
	Lakehurst Borough	0	0	0	0	0	0	0	515	0	25	540
	Little Egg Harbor Twp.	10,182	0	0	1,510	0	0	0	0	90	0	11,782
	Manchester Twp.	17,286	0	0	9,617	0	0	2,010	0	4,500	5,114	38,527
	Ocean Twp. ¹	38	0	0	4,985	0	3,950	4,150	0	278	0	13,401
	Plumsted Twp.	124	0	0	717	0	593	0	0	0	11,940	13,374
	Stafford Twp.	700	0	0	9,430	0	140	2,800	0	210	0	13,280
	Totals	206,100	31,073	1,340	163,302	133,646	67,829	50,792	4,593	19,777	41,046	619,498

¹ Area estimates include portions of the Pinelands National Reserve located outside of the Pinelands Area.

Preservation Area District

In the Preservation Area, municipalities had the responsibility to delineate Pinelands Villages and to designate Special Agricultural Production Areas. There are six Villages wholly or partly in the Preservation Area which occupy 2,750 acres, approximately one percent of the 241,000 Preservation Area acres covered by approved plans and ordinances. Special Agricultural Production Areas occur in four certified municipalities (Medford, Pemberton, Washington, and Woodland) and cover a total land area of 31,000 acres. One further land management category, infill development areas where limited development of existing lots is permitted, was allowed in the Preservation Area. The use of this option resulted in a total of 1,300 acres falling into this category, inclusive of existing development.

Within the Protection Area, municipalities had many more opportunities to make management area adjustments to meet local needs since most towns had more than one management area within their jurisdiction. Since the Commission's management area boundaries were frequently established on the basis of natural factors, and since the land management program represented a regional approach, there were often sound administrative and planning reasons for adjusting management areas. Each of the management area changes was reviewed by the Commission staff and Conformance Subcommittee, and it was only after the concurrence of the subcommittee and full Commission that the boundary changes became effective. This process resulted in revisions to the Commission's land management program for the Protection Area which are summarized below by management area.

Pinelands Villages

One of the first tasks initiated by certified municipalities during the conformance process was the delineation of Pinelands Villages within their jurisdiction. In fully certified municipalities there were a total of 29 Pinelands Villages designated in 16 municipalities. Three of these villages, Brookville, Warren Grove, and Waterford Works, are located in more than one town. The 29 approved Villages occupy just under 20,000 acres, for an average Village size of approximately 680 acres. Excluding the Village of Whiting in Manchester Township which does not follow the traditional pattern and extent of development evident in the other Villages, the average size of Villages is approximately 545 acres. There are 11 Villages, 40 percent of the total, greater than one square mile in size. In seven of the Villages municipal zoning provides for a minimum lot size of at least 3.2 acres since local officials in these towns wished to maintain the existing character of large lot development. Because of the larger lot area requirements in these towns, the Village sizes were often increased in order to provide an opportunity for continuing development.

Although Villages constitute a separate management area in the Comprehensive Management Plan, the Commission did not initially designate their boundaries; therefore the acreage estimates for Villages were not initially separated from other management area estimates. Although Table 2.4 indicates acreage allocations made from other management areas once the precise boundaries were identified, the intent is to indicate where Villages occur in the Pinelands. The Village allocations should not be construed as a reduction or adjustment of management areas from the Plan as adopted by the Commission since the delineation of Village boundaries as a separate management area was anticipated by the Plan.

Table 2.4
Approved Villages in Certified Municipalities

Allocation from CMP Management Area

County	Town	No. of Villages	Total Acreage	Preservation District	Forest	Agricultural Production	Rural Development	Regional Growth
Atlantic	Estell Manor	1	1,695	0	1,695	0	0	0
Burlington	Bass River Twp.	1	1,830	700	430	0	700	0
	Pemberton Twp.	1	100	0	40	0	60	0
	Washington Twp.	3	1,150	1,150	0	0	0	0
	Woodland Twp.	1	760	760	0	0	0	0
Camden	Waterford Twp.	1*	195	0	0	135	60	0
	Winslow Twp.	5*	1,720	0	30	1,130	530	30
Cape May	Dennis Twp.	4	1,580	0	1,260	0	320	0
	Upper Twp.	2	542	0	247	0	295	0
Cumberland	Maurice River Twp.	5	2,578	0	2,242	0	336	0
Ocean	Barnegat Twp.	1*	75	0	75	0	0	0
	Jackson Twp.	3	2,474	0	1,801	0	673	0
	Little Egg							
	Harbor Twp.	1*	90	90	0	0	0	0
	Manchester Twp.	1	4,500	0	1,103	0	3,397	0
	Ocean Twp.	1*	278	0	278	0	0	0
	Stafford Twp.	1*	210	50	160	0	0	0
	Totals	29	19,777	2,750	9,361	1,265	6,371	30

*Includes one Village split by municipal boundaries

Within the Forest and Rural Development Areas, approximately 9,400 and 6,400 acres, respectively, were committed to Village use. This is due to the fact that portions of 19 Villages are located in Forest Areas, and portions of 16 are located in Rural Development Areas. Whiting Village alone covered 1,100 and 3,400 acres of Forest and Rural Development Areas, respectively. It should be noted that Whiting is more than double the size of any other Village and includes the existing developments of Roosevelt City, Cedar Glen Lakes, and Crestwood Village. The smallest Villages are Little Egg Harbor Township's Warren Grove and Pemberton Township's New Lisbon, each of which is approximately 100 acres in size. Both Winslow and Maurice River Townships had five Villages to delineate, and four other towns had multiple Villages within their Pinelands Area.

Forest Areas

The largest management area in the Protection Area, representing the most sensitive lands, is the Forest Area. The Forest Area includes 267,000 acres in the Protection Area and an additional 153,000 acres outside the Protection Area but within the National Reserve. Three towns (Bass River, Estell Manor, and Ocean) with 19,000 acres of Forest Area in the National Reserve have received certification in the National Reserve. In total, 23 of the certified towns have Forest Areas amounting to approximately 163,000 acres. It is interesting to note that on a regional basis the Forest Area had the smallest management area percentage change, with a reduction of only 1,550 acres when the area devoted to Village delineations is subtracted.

The change in the Forest Area acreage totals by county is shown in Table 2.5. With the Village allocations removed, there were actually increases in the Forest Area in three counties, with Ocean County having the greatest net increase and Gloucester County the greatest percentage increase. The majority of the Ocean County increase is attributable to Manchester Township in which 1,100 acres of Forest Area were added; an equal amount of Forest Area acreage was allocated to a Village in Manchester. In three of the counties which had reductions in Forest Area—Atlantic, Burlington, and Camden—the reduction was principally attributable to one town in each county (Estell Manor, Southampton and Waterford, respectively), and the predominant change in each of these three townships was from a Forest Area to an Agricultural Production Area.

Table 2.5
Summary of Forest Area Adjustments in Certified Municipalities

County	Number of Municipalities with Forest Area	CMP Designation ¹ (acres)	Certified Plans and Ordinances (acres)	Net Change (acres)
Atlantic	2	33,350	32,620	-730
Burlington	5	21,385	19,725	-1,660
Camden	2	8,230	6,920	-1,310
Cape May	3	25,124	25,580	456
Cumberland	2	37,333	36,570	-763
Gloucester	1	3,755	4,275	520
Ocean	8	35,678	37,612	1,934
Total	23	164,855	163,302	-1,553

¹ An additional 9,361 acres have been designated as Pinelands Villages.

Agricultural Production Areas

Approximately 77,000 acres were included in the Agricultural Production Area classification under the Comprehensive Management Plan. Nine of the certified municipalities have Agricultural Production Areas which cover approximately 34,000 acres. Aside from Village allocations, ordinance revisions resulted in only a 389 acre reduction from the total acreage designated in the Plan for the entire Pinelands Area. In the case of Agricultural Production Areas, however, the regional summary tends to mask more significant changes which occurred in individual counties and municipalities.

The county summary of management area adjustments in certified Agricultural Production Areas is given in Table 2.6. The principal changes occurred in Burlington and Gloucester Counties which had an increase and decrease, respectively, of approximately 4,500 acres. Pemberton and Southampton Townships were responsible for virtually all of the increase in Burlington County, predominantly resulting from the addition of berry agricultural lands which had been in Forest Areas. Most of the change in Gloucester County is attributable to Franklin Township where large areas of forested, prime agricultural soils were designated in the certified plan and ordinance as a Rural Development Area. The only other significant decrease, and similar in explanation as the above, was in Winslow Township, Camden County.

Table 2.6
Summary of Agricultural Production Area
Adjustments in Certified Municipalities

County	No. of Municipalities with Agricultural Production Areas	CMP Designation (acres) ¹	Certified Plan and Ordinance (acres)	Net Change (acres)
Atlantic	1	0	730	730
Burlington	3	11,700	16,176	4,476
Camden	2	10,775	9,730	-1,045
Cape May	0	0	0	0
Cumberland	1	260	260	0
Gloucester	2	11,300	6,750	-4,550
Ocean	0	0	0	0
Total	9	34,035	33,646	-389

¹ An additional 1,265 acres have been designated as Pineland Villages.

Rural Development Areas

Rural Development Areas accounted for 142,500 acres under the Comprehensive Management Plan, of which approximately 17,000 acres fall within the National Reserve outside of the Pinelands Area. Two municipalities with Rural Development Areas in the Reserve, Bass River and Ocean Townships, revised their land use documents for certification, accounting for approximately 1,200 acres. In total, 20 towns with Rural Development Areas covering 68,000 acres have been certified, resulting in a reduction of 6,000 Rural Development Area acres from the amount designated in the Plan. An additional 6,000 acres were devoted to the 15 Pinelands Villages which occurred in Rural Development Areas. Each of these categories accounted for an eight percent decrease in the Rural Development Area category.

As an intermediate management area in terms of land uses and development intensities, the Rural Development Area was often viewed by towns and the Commission as the area in which adjustments could be made to meet local development and environmental protection objectives. A summary of these adjustments by county is given in Table 2.7. The table shows that in each county, except for Camden, the percentage change exceeded 10 percent. The greatest reductions in Rural Development Areas occurred in Burlington and Ocean Counties, while the greatest increases occurred in Gloucester and Cumberland Counties.

Table 2.7
Summary of Rural Development Area
Adjustments in Certified Municipalities

County	No. of Municipalities with Rural Development Areas	CMP Designation (acres) ¹	Certified Plan and Ordinance (acres)	Net Change (acres)
Atlantic	0	0	0	0
Burlington	6	29,690	24,746	-4,944
Camden	3	9,235	9,945	710
Cape May	3	3,408	2,935	-473
Cumberland	2	5,727	6,490	763
Gloucester	2	13,065	15,250	2,185
Ocean	4	12,810	8,463	-4,347
Total	20	73,935	67,829	-6,106

¹ An additional 6,371 acres were designated as Pinelands Villages.

Since the county summary does not tabulate the management area which received the adjustments, it does not adequately explain how the Rural Development Area was viewed by local officials to further their development and conservation goals. Within municipalities, the greatest change was to Regional Growth Areas, but it is also interesting to note that much acreage was redesignated as Forest Area. In fact, of the seven municipalities which reduced their Rural Development Areas by more than 10 percent, five included some redesignation to Regional Growth Areas, but six included portions which were changed to Forest Area. Additionally, in Pemberton and Dennis Townships, two of the three towns which reduced their Rural Development Areas by more than 25 percent, the changes were exclusively to a less intensive land use category, either Forest or Agricultural Production Areas. In the four towns which increased their Rural Devlelopment Area by more than 10 percent, the changes were also from the Forest and Agricultural Production Areas.

Regional Growth Areas

Regional Growth Areas totaling approximately 119,000 acres in 30 towns were designated in the Comprehensive Management Plan. Of these 30 towns, eight had Regional Growth Areas exclusively in the National Reserve, amounting to approximately 47,000 acres, and one of these (Ocean Township) conformed its land use plan and ordinances in the Reserve for an area that covered 4,150 acres. Sixteen additional towns with Regional Growth Areas have been certified, resulting in a total "certified" area of approximately 51,000 acres. On both a percentage and absolute basis, Regional Growth Areas have been adjusted and increased more than any other management area.

The county summary of Regional Growth Area adjustments is given in Table 2.8. Within each of the four counties having fully certified municipalities and Regional Growth Areas in the Pinelands Area, this management area increased by at least 10 percent, ranging from 14 percent in Burlington County to 39 percent in Gloucester County. Of the other three counties, Cumberland did not have any Regional Growth Area, Cape May only had some in the National Reserve, and only three towns in Atlantic County have been fully certified, none of which include Regional Growth Areas. The net increase in Regional Growth Areas for certified municipalities ranged from approximately 1,650 acres in Camden County to approximately 2,400 acres in Ocean County.

Table 2.8
Summary of Regional Growth Area
Adjustments in Certified Municipalities

County	No. of Municipalities With Regional Growth Areas	CMP Designation (acres) ²	Certified Plan and Ordinance (acres)	Net Change (acres)
Atlantic	0	0	0	0
Burlington	5	15,175	17,303	2,128
Camden	5	9,565	11,210	1,645
Cape May	0	0	0	0
Cumberland	0	0	0	0
Gloucester	1	4,630	6,475	1,845
Ocean	6	13,391	15,804	2,413
Total	17	42,761	50,792	8,031

¹ An additional 30 acres were designated as a Pinelands Village.

The pattern of increased Regional Growth Areas that is evident in the county summary can also be observed when individual municipalities are reviewed, although some local variation exists. Of the 17 fully certified municipalities with Regional Growth Areas, there was no acreage change in the Regional Growth Areas of five towns, there were decreases in two towns, and there were increases in 10 towns. Four municipalities (Jackson, Monroe, Southampton, and Waterford) showed an acreage increase of more than 25 percent. Many municipalities expressed a desire for increased Regional Growth Areas in order to provide greater incentives for the infrastructure improvements needed to serve permitted development. Four municipalities with Regional Growth Areas (Monroe, Ocean, Waterford, and Winslow) have designated Municipal Reserves. However, only two of these towns, Ocean and Waterford, specifically delineated the area, accounting for 440 and 810 acres, respectively. Other towns indicated a desire to consider designating Municipal Reserves in the future.

Residential Development Potential

Throughout this discussion of the conformance process, reference has been made to the acreage adjustments that were made through management area revisions. Since CMP density guidelines vary widely by management area, each boundary adjustment produces a change in the dwelling unit potential. Other factors, such as approvals for Waivers of Strict Compliance and substandard lots, also contribute to the development potential in the Pinelands. The Comprehensive Management Plan included an estimated development potential based on the existing management area delineations and the possible effects of other Plan provisions. The purpose of this section is to review the current situation based on the conformance process and other recent experience.

Since all Pinelands municipalities have not yet been certified by the Commission, the development potential estimate is derived using two methods. In certified municipalities, the development potential from the adopted zoning ordinance was estimated; for uncertified municipalities, the management area delineations adopted by the Commission were used for the estimates. Table 2.9 shows the development potential for each management area (including certified and uncertified towns) and special categories.

Table 2.9
**Estimated Development Potential in Certified
 and Uncertified Municipalities¹**

Category	Estimated Dwelling Units
Forest Area	9,100
Rural Development Area	23,100
Regional Growth Area	96,900
Villages and Towns	17,700
Waivers of Strict Compliance	14,300
Substandard Lots (grandfathering)	10,000
Pinelands Development Credit Use	26,000
Total	197,100

¹ This table does not include the number of dwelling units in the Pinelands National Reserve, outside the Pinelands Area. Nor does it include estimated dwelling units for Agricultural Production Areas, the Preservation Area District, cultural exemptions, and waivers based on an applicant's inability to otherwise achieve a reasonable rate of return.

Forest and Rural Development Areas

The development potential estimate of 9,100 dwelling units for the Forest Area was derived by combining the total dwelling units permitted by certified ordinances in 23 towns with estimates from the land capability maps for 13 uncertified municipalities. The certified municipalities account for 62 percent of the estimated dwelling units within Forest Areas. The Rural Development Area has a present estimated development potential of 23,100 residential dwelling units, with approximately 13,000 units covered by certified zoning ordinances. The average residential density across the certified Rural Development Area is one unit per five acres, but since this average includes land zoned for commercial and industrial development, the effective residential density is higher. It is interesting to note that the combined total of dwelling units in the Forest and Rural Development Areas is within two percent of the estimate contained in the Comprehensive Management Plan. In the current estimate, dwelling units allocated within the Pinelands National Reserve are not counted unless the municipality was certified in that area. Since relatively few Rural Development Areas were identified in the PNR and a very high percentage of the PNR Forest Areas is wetland, predominantly coastal wetlands, the conformance process has not had an appreciable effect on the anticipated development levels in these two management areas.

Regional Growth Areas

The Regional Growth Areas in the Pinelands Area, and within the Pinelands National Reserve in Ocean Township, have an estimated development potential of 96,900 dwelling units. Approximately 54 percent of this total are contained within towns with certified plans and ordinances. As with the previous category, dwelling units that are allocated to the Pinelands National Reserve but are not covered by certified ordinances are not included in the total since the Commission does not exercise direct administrative authority in this area. This factor accounts for virtually all of the 44,000 dwelling unit difference between the Comprehensive Management Plan estimate and the estimate in Table 2.9. This difference should not be viewed as a shortfall from the original estimate in the Comprehensive Management Plan, as the growth areas in the National Reserve are generally zoned by municipalities for residential development at densities comparable to those of the Comprehensive Management Plan.

Certified Villages and Towns

Within certified municipalities there are 29 Pinelands Villages, three of which occur in more than one town, and two Pinelands Towns, Lakehurst and Woodbine. Of the estimated development potential of 9,500 dwelling units in certified Villages and Towns, approximately 7,400 units are contained within Villages, with one Village, Whiting, accounting for 35 percent of this total. The estimate for Villages and Towns without sewers was derived by applying a density factor of one unit per acre of developable land across the residentially zoned area unless, as occurred in seven Villages, a larger minimum lot size was provided to maintain the character of existing development. In the latter case, the certified ordinance's minimum lot size was used for the estimate. In the case of the two sewerered villages (New Lisbon and Whiting) and one sewerered town (Lakehurst), the minimum lot size with sewers was utilized for the estimate.

Uncertified Villages and Towns

Since the responsibility for delineating the precise boundaries of Pinelands Villages rests with the municipality, and since Pinelands Towns can largely retain existing zoning, a precise estimate of development potential for these areas is not available. The figures of 8,200 dwelling units in Table 2.9 is therefore a projection based on available information. The projection includes approximately 3,200 dwelling units associated with Pinelands Villages. This is based on the existence of 19 uncertified Villages and an average development potential of 170 units in the Villages which have been certified to date. The remaining units are attributed to uncertified Pinelands Towns, with the projection based on land availability and capability within these areas. These figures may require adjustment as additional municipalities are certified and management area boundaries are changed.

Waivers of Strict Compliance

Waivers of Strict Compliance are a method to provide relief where strict compliance with the Comprehensive Management Plan would create an extraordinary hardship or where the waiver is necessary to serve a compelling public need.

As discussed in Chapter III, approximately 12,350 residential units have received Waivers of Strict Compliance to date. Because of the time limit established for waivers requested on the basis of prior expenditures made in reliance upon a local development approval, it is estimated that approximately 2,000 additional units may be approved under this particular provision. The one remaining type of extraordinary hardship—that which is based on reasonable use of a property—will undoubtedly result in additional waivers for residential development. Although it is impossible to render a precise estimate, past experience indicates that the number will be extremely low.

Substandard Lots

The substandard lot provision of the Comprehensive Management Plan provided that lots of an acre or more in the Protection Area can be developed for an owner-occupied dwelling unit. The Commission originally estimated that approximately 10,000 dwelling units could be developed under this provision based on an analysis of ownership patterns. This estimate has been used in Table 2.9. However, a review of three towns (Dennis, Estell Manor, and Maurice River) which actually identified each substandard lot indicated that if these three towns are the norm, then the actual number of substandard lots would be about half the projection. In large part, this is attributable to the fact that municipalities have tended to recognize existing ownership patterns when identifying specific zoning districts and densities in the various management areas. Experience gained during the administration of the development review process also appears to indicate that considerably less than 10,000 substandard lots will be approved for development.

Pinelands Development Credits

The estimate of 26,000 dwelling units in Table 2.9 attributed to Pinelands Development Credits represents the total number of residential units which could be built if all PDCs currently allocated were used in Regional Growth Areas. The figure of 26,000 units is therefore a theoretical maximum which, because of ongoing acquisitions, substandard lots, unclear title, or unwillingness to sell credits, is not expected to be fully realized.

Other Categories

As indicated in the footnote to Table 2.9, there are certain categories of development for which no estimate of dwelling unit yield is given. The Pinelands National Reserve outside of the Pinelands Area is not subject to the CMP's local planning and development standards, and therefore the units yielded by this area are not counted.

Since residential development in Agricultural Production Areas and the Preservation Area District is conditional in nature (agricultural-related or cultural/economic exemption), it is not possible to derive estimates based upon land characteristics alone. The level of development, over and above that permitted through Waivers of Strict Compliance and grandfathered lot approvals, is not anticipated to be substantial. Table 3.3 indicates that a total of 147 homes have been approved for development in these two management areas to date. A substantial proportion of those homes received development approvals on the basis of Waivers of Strict Compliance or grandfathered lot provisions rather than upon the conditioned residential uses provided for in the districts.

As noted earlier, the number of residential units which might receive Waivers of Strict Compliance under one test for extraordinary hardship have also not been estimated.

Summary

The CMP initially estimated that approximately 237,000 new residences could be built in the Pinelands National Reserve under the terms of the CMP. Although the estimates presented here are less, the difference is almost exclusively attributable to the fact that lands within the National Reserve but outside the Pinelands Area were not surveyed in this latest estimate except in those three municipalities which voluntarily revised zoning standards in that area.

It is also noteworthy that the estimated potential for residential development exceeds the average yearly rate of residential approvals issued during the first two and one half years by a factor of 106. This may indicate that the Plan's capacity for development will be sufficient to meet the region's development demands well beyond the turn of the century.

On the other hand, such a projection may not be well founded at this point. Economic conditions have only recently been conducive to development, and the development approvals issued to date may not be reflective of pent up demand or cyclical economic conditions. Uncertainty on the part of development interests in municipalities which have not yet or just recently revised their zoning requirements may also have dampened activity. Lastly, as increased infrastructure is phased into Regional Growth Areas, the rate of active development projects may well increase.

County Conformance Summary

The Pinelands Protection Act and the Comprehensive Management Plan (CMP) require Pinelands counties to revise their master plans and land development ordinances to be consistent with the Comprehensive Management Plan. Article 3, Part 2 of the CMP sets forth the procedures for certifying county planning documents. Before certifying a county's plan and ordinance, the Commission must find that the county's standards and procedures for reviewing development, as well as the county's solid waste management program, capital improvements program, and any other programs affecting development in the Pinelands Area are in conformance with the minimum requirements of the Comprehensive Management Plan.

The Commission has been able to make this determination for four of the seven Pinelands counties. These counties, and their respective certification dates, are: Camden and Gloucester Counties - August 1982; Burlington County - September 1982; and Cumberland County - January 1983.

Ocean County received conditional certification in April 1983 and submitted revised documents in August 1983. The major issue in Ocean County concerns the county's proposal to redesignate lands in western Berkeley Township from Forest and Rural Development Area to Regional Growth Area. The county's original application proposed a redesignation of approximately 4,000 acres (3,000 acres from Forest Area and 1,000 acres from Rural Development) whereas the master plan amendments adopted in July 1983 showed a smaller, but still substantial area slated for "medium density residential" development, i.e., 2-4 dwelling units/acre. Ocean County officials assert that the development of this area is essential to

achieve the county's long range growth management policies, including the realization of plans for road and sewer construction and the use of the county-owned Robert J. Miller Airpark. Although county and Commission representatives - specifically members of the Commission's Conformance Subcommittee - have agreed to an expansion of the growth area to accommodate approximately 3,425 new units, progress was slow in negotiating the details of the land use plan for the area. The Commission voted at its October 1983 meeting not to certify Ocean County's master plan and land development resolution on the basis that they were inconsistent with the objectives of the Comprehensive Management Plan and the Pinelands Protection Act. Berkeley Township officials, who had requested a postponement of Commission action on its master plan and land use ordinances until a decision was made on the county plan and ordinance, have received another extension.

Atlantic and Cape May Counties are currently in non-compliance with the Comprehensive Management Plan. Atlantic County has never applied for Commission certification. County representatives have in fact had little direct contact with the Commission throughout the conformance period. In 1981, Atlantic County adopted a new master plan which the Commission staff finds quite similar to, although not totally consistent with, the Comprehensive Management Plan. The county has not formally transmitted this plan to the Commission for its review and comment.

In January 1982, Cape May County filed a certification application which consisted of the county's existing, unrevised master plan and land development regulations. After completing its review of the application, the Commission determined that the documents were certifiable with conditions. The county chose not to respond to the conditions and therefore became a non-complying county in September 1982. Since Cape May's three Pinelands municipalities are now fully certified, it is possible that discussions between the county and the Commission will resume. No meetings have yet been arranged.

Generalizations about the county conformance process are difficult to make. As was the case with municipalities, each county had its own views on the Pinelands legislation as well as the Comprehensive Management Plan and the Commission's implementation of the Plan. In addition, the County Planning Enabling Act (County and Regional Planning Act, N.J.S.A. 40:27.1 et seq.) allows great leeway in terms of the contents and relative authority of the county master plan, as well as the extent of county development review authority. Counties historically have operated in accordance with their own interpretations of this act. These interpretations influenced the type and scope of the documents submitted as well as the negotiations leading up to conformance.

Among the memos issued by the Commission relative to county conformance was an explanation that counties were required to attain consistency only in areas covered by existing plans and programs. In other words, Pinelands compliance applied to a county only to the extent it had chosen to exercise the authority granted to it by the County Planning Enabling Act.

CERTIFIED MUNICIPALITIES

Corbin City

Corbin City is located in eastern Atlantic County, in the southern portion of the Pinelands Area. Pinelands municipalities which abut Corbin City are Estell Manor City and Egg Harbor Township in Atlantic County and Upper Township in Cape May County.

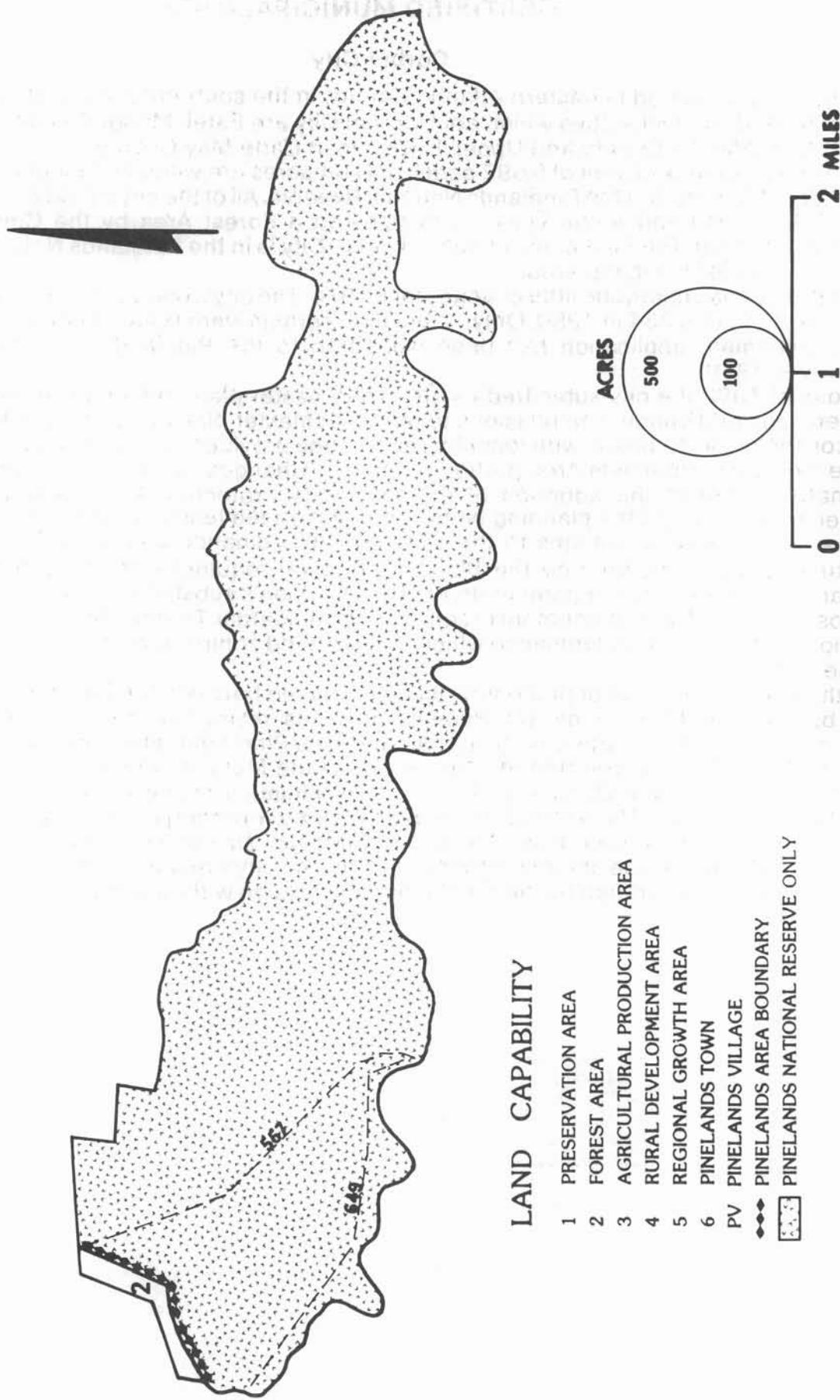
Of the city's total land area of 5,692 acres, only 64 acres are within the Pinelands Area. The remainder of the city is in the Pinelands National Reserve. All of the city's Pinelands Area (west of Buck Hill Road and Aetna Drive) is designated a Forest Area by the Comprehensive Management Plan. The Pinelands Village of Corbin City is in the Pinelands National Reserve, outside the state Pinelands Area.

Corbin City has undergone little change since 1970. The city's population, in fact, decreased from 258 in 1970 to 254 in 1980. Only 14 building permits were issued during this time. Only one development application has been submitted to the Pinelands Commission since February 8, 1979.

In August 1982 the city submitted its amended master plan and land use ordinances for Commission certification. The revisions to the city's master plan and zoning ordinance were made by the planning board, with technical assistance provided by the Commission staff, and affected only the Pinelands Area portion of the city. Changes to the city's master plan were necessary to reflect the adoption of the Pinelands Protection Act, the Comprehensive Management Plan, and the planning board's recommended land use for the city's Pinelands Area. In a similar vein, changes to the city's zoning ordinance and subdivision ordinance were necessary to incorporate the Plan's procedural requirements (development review requirements, application requirements, etc.) and the Plan's substantive requirements (Forest Area lot sizes and Plan management programs and standards). To simplify the process, the city adopted a Pinelands Area ordinance which incorporated zoning and subdivision procedures and standards.

No substantive land use or procedural issues surfaced between the time the city accepted municipal conformance funds and submission of its revised master plan and land use ordinance. With minor exceptions, the city adopted the Plan's permitted densities and uses in a Forest Area. This required that the city reclassify the Manufacturing Zoning District to a Forest Area Residential District, and a 15 acre minimum lot size was established. The "grandfathered lot" and Pinelands cultural exemptions were incorporated as were most of the other permitted Forest Area uses. Because of the small size of its Pinelands Area, the city excluded recreational use and resource extraction. The city's amended master plan and land use ordinance were certified by the Pinelands Commission without conditions on October 8, 1982.

CORBIN CITY



Estell Manor City

Estell Manor is located in southeastern Atlantic County, in the southern portion of the Pinelands Area. The Tuckahoe River forms its western border, and the Great Egg Harbor River is its eastern border. All of Estell Manor is located within the Pinelands Area or Pinelands National Reserve. The Pinelands Area comprises 65 percent of the city's land area (22,560 acres). The Pinelands Plan designated all of Estell Manor as a Forest Area. The historic community of Estell Manor was designated a Pinelands Village.

Between 1970 and 1980 the population of Estell Manor increased by 309 persons, from 539 to 848. During this same time period, 125 building permits were issued. This small growth rate is characteristic of the city's historical development and Forest Area municipalities in general.

Shortly after the Plan took effect in January 1981, the Commission staff met with city officials to discuss the conformance process and the availability of planning assistance funds. In March 1981 the city contracted with the Pinelands Commission for planning assistance funds for both the Pinelands Area and Pinelands National Reserve. Through the spring and fall of 1981 the city's planning board prepared the boundaries for the Village of Estell Manor and a proposal to allocate Forest Area dwelling units. In May 1982 the planning board adopted a revised land use element which was favorably received by the staff, the Conformance Subcommittee, and the full Commission.

The master plan was adopted in its entirety in May 1982. In August 1982 the city adopted Ordinance 82-6 which amended the city's subdivision ordinance and zoning ordinance. A revised soil removal ordinance was adopted in October 1982. A revised tree removal ordinance was adopted in December 1982, completing the city's application for certification.

Virtually all of the city's existing residential development is within the Village of Estell Manor. This area is on the city's western side, just below the boundary with Weymouth Township. The proposed delineation of Dorothy Village in Weymouth Township is contiguous to Estell Manor. As originally presented to the staff, the Village area exceeded the criteria for the delineation of a Pinelands Village. After a detailed review of the original Village proposal submitted by the city, the staff and Conformance Subcommittee agreed that a Village larger than one square mile, but less than what the city proposed, was necessary to accommodate a doubling of the units permitted by the Plan. This agreement was based on the city's desire to maintain the existing character of development on five acre lots and environmental limitations (wetlands) within the Village. The Village is approximately 2.75 square miles and is the minimum size necessary to accommodate a doubling of the number of units.

The second step in the conformance process involved the allocation of Forest Area dwelling units. Initially, the city provided more units than the Plan permitted. However, after extensive discussions between the staff, the subcommittee, and city officials, it was agreed that the Forest Area could accommodate an additional 10 percent increase in dwelling units because the methodology used by the city to calculate units reflected local limitations, and the proposal was likely to decrease the number of "grandfathered" units which could be built in the Forest Area. The minimum lot size established by the city in the Forest Area was between 3.2 acres and 20 acres. The areas where smaller lot sizes are permitted reflect the existing character of development and are in areas adjacent to Estell Manor Village or other areas where subdivisions have been built.

As part of the Commission's conditional certification, Estell Manor was required to recognize the Commission's designation of an Agricultural Production Area in the southern portion of the city, north of Aetna Drive. The area, approximately 675 acres, is actively farmed. The major landowner requested that the Commission consider the designation after the city initially elected not to during the conformance process. In meeting the Commission's conditions, city officials enlarged the area to 730 acres which includes other smaller parcels which are also actively farmed.

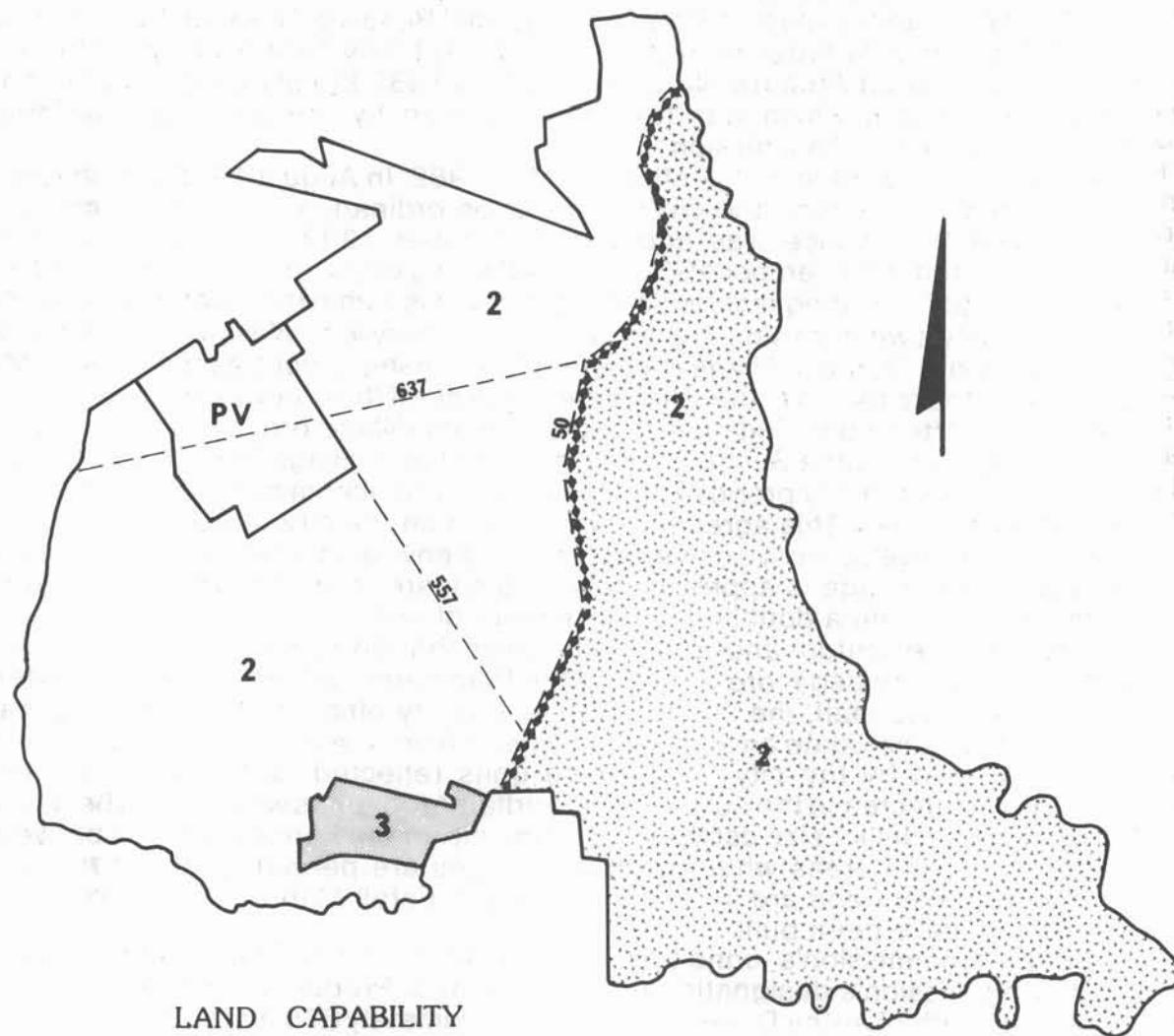
The city, in meeting the other conditions of the Commission's conditional certification, modified the Plan's "grandfather lot" provision, sign program, Forest Area uses, historic program, and energy program. The modifications to the Plan's grandfather provision allow an owner to sell his property as a building lot if certain criteria are met. The eligibility criteria for the "grandfather" exemption is similar to the criteria established by Dennis Township officials. (See section on Dennis Township.) This revision is expected to result in some additional

development potential for grandfathered lots, but it has been offset by an increase in the Forest Area lot size from 20 to 25 acres.

The sign provision permits a limited number of off-site commercial advertising signs to be constructed subject to stringent requirements regarding size, location, and number.

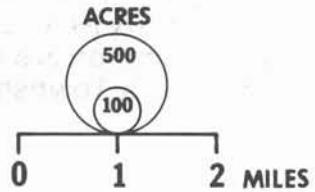
The remaining modifications reflect local circumstances and do not affect the substantive standards of the Plan. The Pinelands Commission fully certified the city's master plan and land use ordinance on August 5, 1983.

ESTELL MANOR CITY



LAND CAPABILITY

- 1 PRESERVATION AREA
- 2 FOREST AREA
- 3 AGRICULTURAL PRODUCTION AREA
- 4 RURAL DEVELOPMENT AREA
- 5 REGIONAL GROWTH AREA
- 6 PINELANDS TOWN
- PV PINELANDS VILLAGE
- ◆◆◆ PINELANDS AREA BOUNDARY
- PINELANDS NATIONAL RESERVE ONLY
- CHANGED TO HIGHER DENSITY



Bass River Township

Bass River Township is located in southeastern Burlington County, in the east-central part of the Pinelands Area. The township has a total land area of 77.4 square miles of which 67.9 square miles (88 percent) lie within the Pinelands Area. The remainder of the township lies within the Pinelands National Reserve. The portion outside the Pinelands Area but within the Reserve runs from Bass River State Forest and the Garden State Parkway south to the Mullica and Bass River marshes and from New Gretna east to Little Egg Harbor Township.

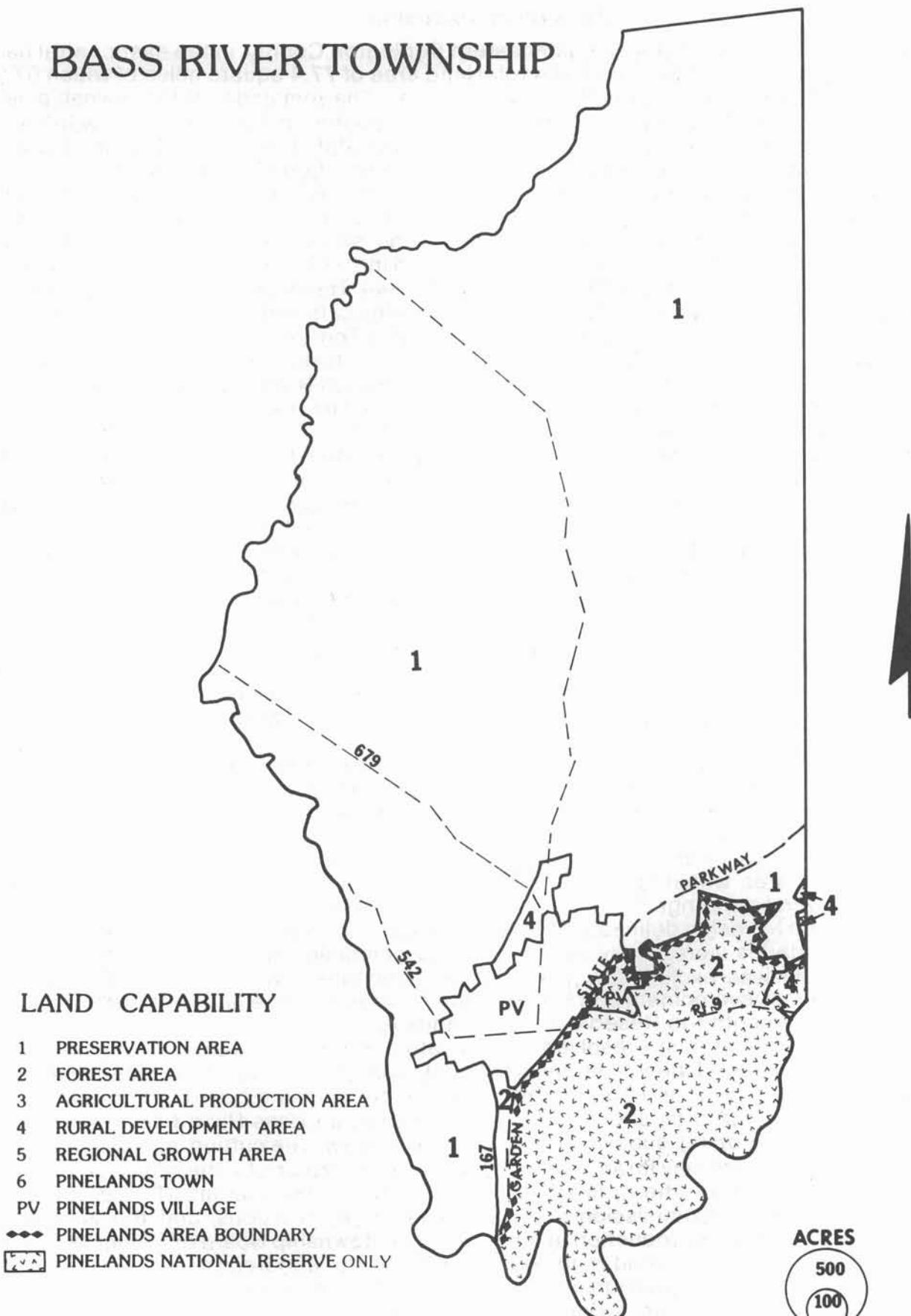
Bass River lies primarily in the drainage basin of the Mullica River. It is bounded on the west by the Wading River and crossed by the Bass River. The township has one of the lowest population densities in the Pinelands Area—17 people per square mile. Bass River added only 78 persons in the 1960's, bringing the population to 815 in 1970. The population increased by 65 percent during the 1970's to a 1980 population of 1,344. The population is heavily concentrated in New Gretna and along the Route 9 corridor, with scattered residential development existing in the remainder of the township. Like Washington Township, its neighbor to the west, Bass River contains some of the most highly valued physical, historical, and cultural resources in the Pinelands. The township contains the Wading and Bass Rivers, the furnace at Martha, the mill ruins at Harrisville, and a portion of Oswego Lake. The township also includes Bass River State Forest and reaches the Great Bay in the south.

The Pinelands Comprehensive Management Plan designates three management areas in the Pinelands Area of the township, the Village of New Gretna, and two management areas in the Pinelands National Reserve. The Preservation Area accounts for 42,000 acres of the Pinelands Area, or 83 percent of the township. The Rural Development Area accounts for 1,000 acres of the Pinelands Area, and the Forest Area here contains 300 acres. The Forest Area in the Reserve contains approximately 6,400 acres, while the Reserve's Rural Development Area is 250 acres. The Preservation Area occupies all of the township north and west of New Gretna and northwest of the Parkway, as well as Bass River State Forest east of the Parkway. The Pinelands Area's Rural Development zone is basically coincident with New Gretna, and the Reserve's Rural Development Area adjoins Little Egg Harbor Township. The Forest Area in the Pinelands Area consists of coastal wetlands south of New Gretna, while the Reserve's Forest Area includes coastal wetlands south of Route 9 and predominantly upland forests north of Route 9.

The township was somewhat constrained from making management area changes by the proximity of the Preservation Area boundary to other areas. The main boundary adjustment, as well as the main issue during conformance, was the delineation of New Gretna Village. The township held several public meetings to solicit suggestions for the Village boundary, and many different proposals were put forth. There was some sentiment in Bass River to include the Wading River area within New Gretna Village or to have it designated as a separate Village. After several meetings between the township's consultants and the Conformance Subcommittee, the township delineated five possible options for New Gretna's configuration. The Village boundaries were finally settled upon by combining two of these options. The Wading River area was excluded, but the Village boundaries were expanded to include portions of the Rural Development and Preservation Areas in the Pinelands Area and portions of the Forest Area in both the Reserve and Pinelands Area.

With the Village boundary issue resolved and the natural resources inventory completed, the township rapidly completed the remainder of the conformance revisions. The master plan was completed in January 1982 and adopted by the township planning board in February. The revisions to the land use ordinances were more complex, as Bass River had to revise its ordinances governing zoning, subdivision and site plan review, tree cutting, and soil removal. Bass River was also one of only three towns which revised their plans for the National Reserve and therefore had to revise the ordinances in their entirety. The planning board attorney worked closely with the Commission staff in making these revisions, and the amended ordinances were ready for introduction in April 1982. The township Board of Commissioners adopted the ordinances on second reading in May 1982. The adopted plan and ordinances were transmitted to the Commission, and on July 9, 1982 the Pinelands Commission fully certified Bass River's conformance documents. Bass River Township thus became the first municipality, other than towns with all military lands, to be fully certified by the Commission.

BASS RIVER TOWNSHIP



Evesham Township

Evesham Township is located in western Burlington County, along the western border of the Pinelands Area. The township's total land area is 29.7 square miles, of which 16.4 square miles (55 percent) are located in the Pinelands Area. Another 10 percent (3,700 acres) is located within the Pinelands National Reserve, but outside the Pinelands Area. All of the township's land area south of Route 70 is included in the two jurisdictions, with the portions closest to the junction of Routes 73 and 70 outside the Pinelands Area.

Through the 1960's and 1970's Evesham Township had been a rapidly growing community, tripling in population between 1960 and 1970 (4,548 to 13,477). Another 8,000 new residents were added in the 1970's to reach a population of 21,659. Of all Pinelands municipalities, Evesham is closest to Philadelphia and abuts the growing communities of Cherry Hill and Voorhees in Camden County. Development over the past two decades has centered along the Routes 70 and 73 corridors and has been concentrated in the northwest. The Pinelands Area portion of Evesham includes several lake communities, planned unit developments, and linear development along roads. However, these rural roads are few in number, and the area remains relatively undeveloped. Vacant land is primarily a complex of upland and lowland vegetation types, with some agricultural uses interspersed.

The Comprehensive Management Plan designates three management areas in the Pinelands Area of Evesham — Regional Growth, Rural Development, and Forest. The Regional Growth Area (750 acres) includes a small area near Route 70 and the Medford border, encompassing the Pine Grove section and developed areas along Old Marlton Pike and Tuckerton Road. The 3,700 acres in the Pinelands National Reserve outside the Pinelands Area are also designated Regional Growth Area. The Rural Development Area (8,400 acres) contains 83 percent of the township's Pineland Area and runs from Kresson, Jennings Lake, and King's Grant in the north to Crowfoot Road in the south. The Forest Area (1,200 acres) includes the portion of the township which drains into the Mullica River and borders Waterford Township.

Evesham was one of the first municipalities to begin the conformance process, and the township planner was working on revisions before the planning assistance grant was executed. The township was revising its master plan and ordinances for the entire municipality, not just the Pinelands Area, as part of its periodic review. However, it only sought Pinelands Commission certification of that portion of the township within the Pinelands Area. The only revisions the township made to the Pinelands management area boundaries were adjustments to follow roads, lot lines, streams, and other administrative borders.

The planning process in Evesham was very comprehensive, and numerous public meetings in the township were devoted to the Pinelands. Few issues were raised, however, since the township's goals for its Pinelands Area portion were similar to those of the Comprehensive Management Plan.

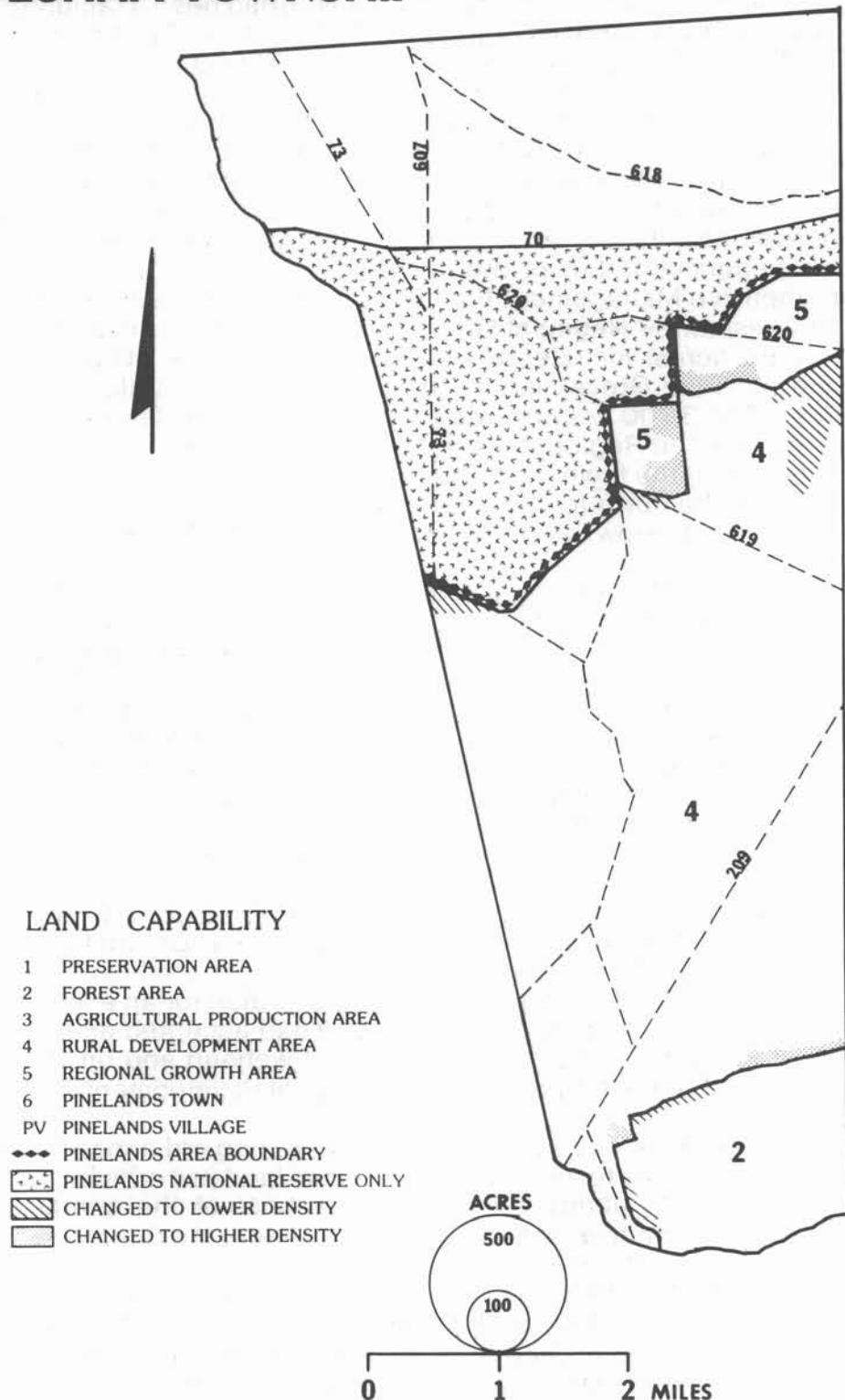
The most pressing planning issue concerned two planned unit developments (Barton's Run and King's Grant) and their status under the Pinelands Plan. During the conformance process King's Grant sought and received a Waiver of Strict Compliance for 4,500 units. The developers of Barton's Run had not yet filed an application for an expansion under Pineland Plan regulations. The township also proposed and had accepted an innovative approach to dealing with the variable development potential of wetland and upland areas in the Rural Development Area by permitting a greater intensity of development if a site consisted of all uplands.

Since Evesham was reviewing its master plan and zoning ordinance for the entire township, there was not sufficient time to amend the procedural land use ordinances. The township was conditionally certified on January 7, 1983, with most of the conditions relating to the procedural chapters in the township code. The conditions on the procedural chapters were subsequently adopted by the township without revision.

Several conditions to the zoning ordinance were also attached to management programs for agriculture, waste management, and scenic resources. These conditions were largely adopted by Evesham without change. The condition on the water quality program was modified to insert alternative language which adopted the Pinelands standards by reference, and the conditions on the drainage section were modified to clarify these standards. The Commission had also conditioned the township's zoning map to remove a planned unit

development overlay district which dealt with previously approved planned unit developments. The township was concerned about the legal implications of this condition. Rather than delete the overlay districts, alternative language was developed for the ordinance and cross-referenced to the zoning map. Evesham reapplied for certification in May 1983, and the Pinelands Commission fully certified the township's planning documents on July 8, 1983.

EVEHAM TOWNSHIP



Medford Township

Medford Township is located in central Burlington County, in the northwestern section of the Pinelands Area. The township's total land area is 40.3 square miles of which 31.3 square miles (78 percent) lie within the Pinelands Area. The Pinelands National Reserve includes an area of approximately 100 acres which is not within the Pinelands Area. Other than this area in the Reserve, all of Medford Township south of Route 70 is within the Pinelands Area.

Medford Township has undergone a considerable transformation in the 20 years between 1960 and 1980. From a 1960 population of 4,884, the township increased by 71 percent during the 1960's to a 1970 population of 8,292. The 1970's saw an acceleration of the growth rate to 110 percent for the decade, resulting in a 1980 population of 17,471. This period saw the township change from a rural, agricultural community to a suburbanizing one. The growth has predominantly radiated from the village of Medford north across Route 70, west to the Evesham boundary, and south past Medford Lakes to the Shamong border. The township's Pinelands Area retains some large portions of open space, principally in the east, where forests, field agriculture, and berry farming occur, and in the southwest which contains part of the Wharton tract, berry farms, and extensive forests. The township drains primarily into the South Branch-Rancocas Creek. The southwest portion of the township drains into the Mullica River.

The Comprehensive Management Plan designates five management areas in the township. These are the Preservation Area (3,300 acres), the Forest Area (750 acres), the Rural Development Area (8,500 acres), the Regional Growth Area (7,100 acres), the Agricultural Production Area (75 acres), and the Pinelands Villages of Lake Pine and Taunton Lakes. The Preservation Area encompasses the Mullica drainage basin. The Forest Area includes a small portion of this basin as well as wetlands adjacent to the Preservation Area. The Regional Growth Area extends from Medford village west to Evesham, south to Shamong on the west side of Route 541, and east to Tabernacle along Route 532. The northeast and west-central portions of the township's Pinelands Area have been designated Rural Development Areas. There is a small section of Agricultural Production Area at the Shamong boundary, and the Pinelands Villages are near the Evesham border close to the Regional Growth Area.

The principal management area adjustment that Medford made was to increase the Regional Growth Area by approximately 1,200 acres by recategorizing lands in the Rural Development Area. Following this change the township was able to begin its calculations of permitted dwelling units. This was a difficult task for the Regional Growth Area since it contained sewered and unsewered portions, and there were vacant lots that had been previously approved for development. Eventually, an allocation figure was reached, and the township's proposed zoning in the Regional Growth Area resulted in a much higher density than that specified in the Comprehensive Management Plan. To achieve relative consistency among the Regional Growth Area zoning districts, a modest increase in density was permitted, and Medford's ordinance was conditionally certified with the necessary revisions indicated by the Commission.

The other issues raised by the township all revolved, in one way or another, around the Commission's wetlands program. Early in the 1970's the township had contracted with the University of Pennsylvania for a natural resources inventory. Based on this inventory, development standards were established, and a development pattern began to emerge. With the far stricter wetlands standards promulgated by the Commission, local officials were concerned that development might be curtailed in the township since the sewered area was on very low ground. Medford therefore developed an "infill wetlands" program that permitted reduced 50 feet wetland buffers in certain areas if specific criteria were met. Furthermore, development was allowed in or within 50 feet of wetlands if other standards were met. The Commission had already permitted on a consistent basis buffers of less than 100 feet in these areas when reviewing development applications.

Medford adopted a revised master plan in June 1982 which was submitted to the Conformance Subcommittee for informal review. Discrepancies in Regional Growth Area densities were noted, and the planning board amended the plan in October 1982. The township council also adopted Medford's land development ordinance in October 1982. The plan and ordinance were submitted to the Commission, and on March 4, 1983 the Pinelands Commission conditionally certified Medford's conformance documents. The delay in the Commission's

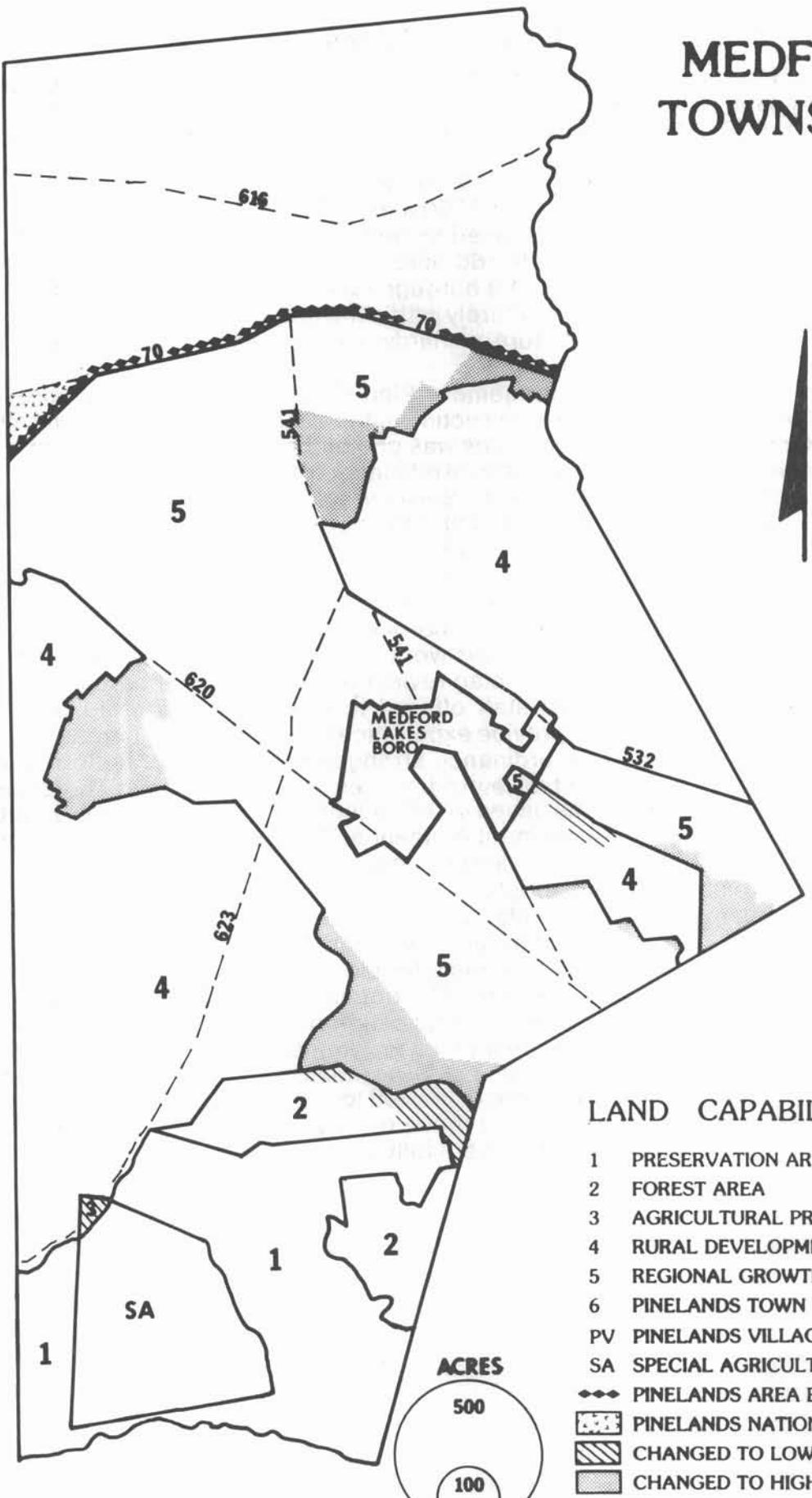
action was a result of Medford's request that the Commission not act until the conditions were reviewed by local officials and discussed with the Commission staff.

The only conditions attached to the township's master plan related to Regional Growth Area densities and to the Commission's designation of Agricultural and Special Agricultural Production Areas which the Commission had made at the request of a landowner. The ordinance had these and more extensive conditions, including the addition of omitted management programs for recreation, energy conservation, and agriculture. Inconsistent management programs which were the subject of conditions included fire management, fish and wildlife, scenic resources, vegetation, water quality, and wetlands. Subsequent to the adoption of the ordinance, but prior to the Commission's conditional certification, township representatives and the Commission staff met often to review the prospective changes. Through this process agreement was reached on the substance of the revisions.

Of particular note is the wetlands program. Although the general approach of permitting reduced buffers in areas already affected by development is in keeping with the intent of the Comprehensive Management Plan, Medford's ordinance specified reduced buffers in relatively non-impacted areas and permitted development within wetlands themselves. After extensive field investigation necessary refinements to Medford's proposal were identified. These refinements limited the applicability of the township's proposal to wetland areas already extensively developed. These changes were specified in the conditions. Medford had also neglected to include the duplicate filing provision for minor development. The ordinance did not include a low income housing program since the Mount Laurel II decision had recently come out, and the Commission was awaiting the Attorney General's direction as to the decision's applicability in the Pinelands.

The Medford planning board and council amended the plan and ordinance, respectively, in April 1983, and the township applied for and received full certification at the May 6, 1983 Pinelands Commission meeting.

MEDFORD TOWNSHIP



0 1 2 MILES

Medford Lakes Borough

Medford Lakes Borough is located in west-central Burlington County, in the northwestern portion of the Pinelands Area. The borough has a total land area of 1.25 square miles, all of which is within the Pinelands Area and Pinelands National Reserve. The borough is surrounded by Medford Township and bisected by Route 541.

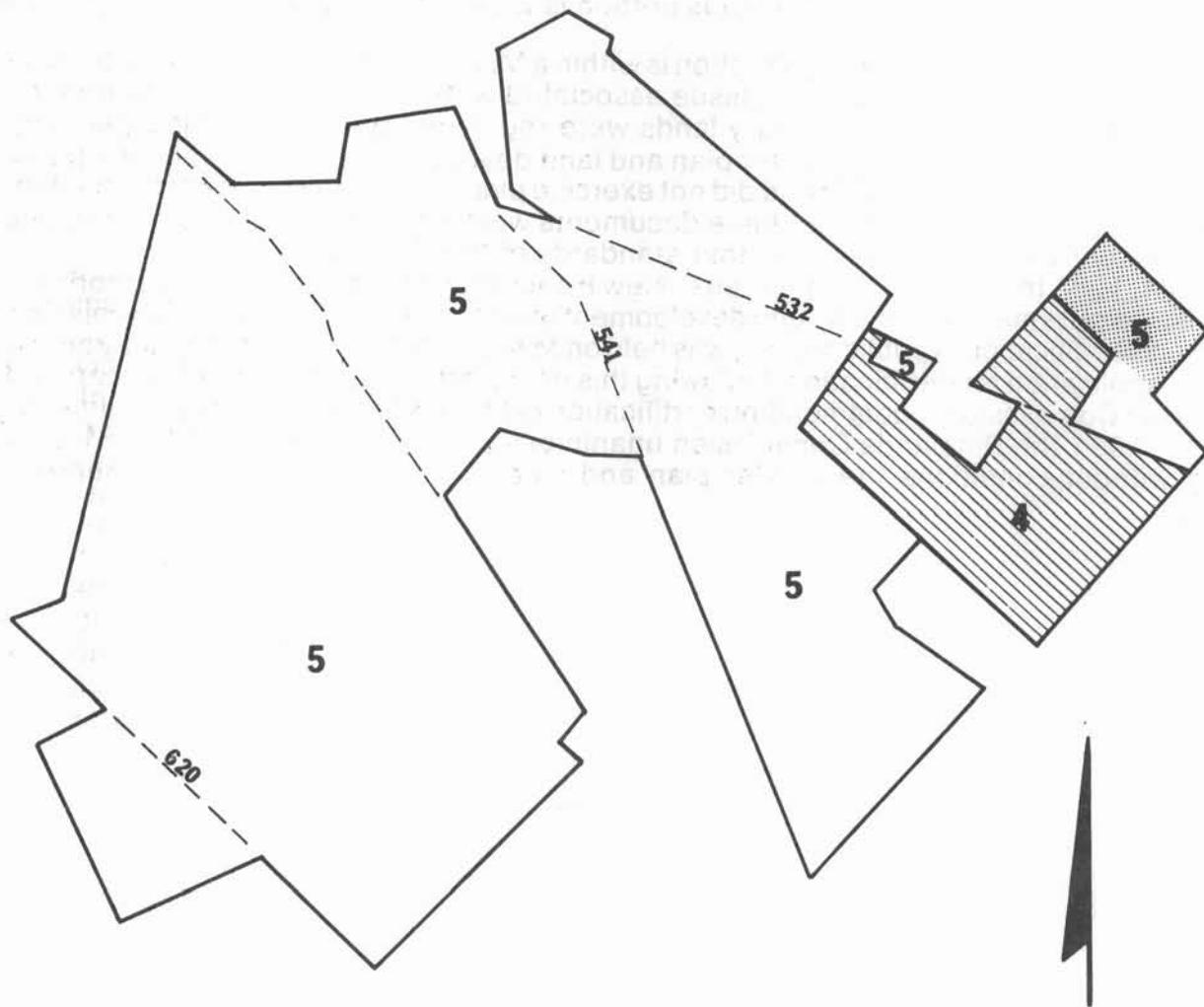
The Borough of Medford Lakes began as a lakeside resort community in the 1920's, with log cabins the characteristic house style. The 1950's and 1960's saw the greatest population expansion. The borough population increased by nearly 70 percent in the 1960's to a 1970 total of 4,792. Medford Lakes added only 166 persons in the 1970's as a result of declining family size and the lack of vacant land. The borough has 21 lakes and was the site of Aetna Furnace in the 1700's. The borough lies entirely within the drainage basin of the South Branch -Rancocas Creek and contains a mixture of hardwood uplands and a variety of wetland species.

The Pinelands Comprehensive Management Plan designated the entire borough as a Regional Growth Area except for a 20 acre section in the eastern corner which was classified as a Rural Development Area. Medford Lakes was one of the first municipalities to begin the conformance process, and from the outset local officials expressed a concern about maintaining the remaining open space in the borough. Borough officials noted that a large tract in the Regional Growth Area was a golf course and that the portion in the Rural Development Area was sewered and fully developed. The borough adjusted management area boundaries to include this seweried area in the Regional Growth Area and placed the golf course in a Rural Development Area. This produced a 60 acre increase in the Rural Development Area.

As these discussions were progressing, the borough was developing a natural resources inventory for inclusion in the master plan. This work was essentially completed by the fall of 1981, as were the other required master plan revisions. Because the borough was making such rapid progress, the Commission staff offered to prepare revisions to the land use ordinances to aid Medford Lakes and provide experience for the staff. The borough's planning consultant indicated that the current ordinance arrangement, in which Medford Lakes had separate zoning and land development review ordinances, would be retained. The Commission staff prepared the ordinance revisions based on this assumption. The borough subsequently, opted to prepare a unified land development ordinance. In doing so, some of the substantive elements contained in the staff's revisions were omitted.

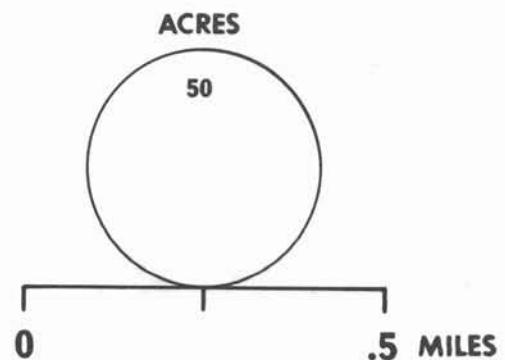
The Medford Lakes planning board adopted a revised master plan in January 1982, and the unified ordinance, which had been completed in the spring, was adopted by the council in August of that year. The Pinelands Commission conditionally certified the borough's conformance documents on October 8, 1982. The master plan required no revisions since it was consistent with Pinelands Plan requirements. The ordinance required only minor revisions, principally related to review procedures and application requirements. Two additions were required to the water quality and scenic resources programs. Medford Lakes did not provide for a low income housing program or the use of Pinelands Development Credits since there were only about 30 vacant lots of 10,000 square feet left to develop in the borough. The borough reapplied to the Commission after adopting these revisions. On February 4, 1983 Medford Lakes Borough's conformance documents were fully certified by the Pinelands Commission.

MEDFORD LAKES BOROUGH



LAND CAPABILITY

- 1 PRESERVATION AREA
- 2 FOREST AREA
- 3 AGRICULTURAL PRODUCTION AREA
- 4 RURAL DEVELOPMENT AREA
- 5 REGIONAL GROWTH AREA
- 6 PINELANDS TOWN
- PV PINELANDS VILLAGE
- CHANGED TO LOWER DENSITY
- CHANGED TO HIGHER DENSITY



New Hanover Township

New Hanover Township is located in northeastern Burlington County, in the northern portion of the Pinelands Area. New Hanover's Pinelands Area abuts the Pinelands portions of Wrightstown Borough, Pemberton Township, and North Hanover Township in Burlington County. It also abuts the Pinelands portion of Plumsted Township in Ocean County. Approximately 90 percent (11,380 acres) of New Hanover's total land area of 12,720 acres is within the Pinelands Area, and all of the Pinelands portion is within the boundaries of Fort Dix and McGuire Air Force Base.

Since all of the township's Pinelands portion is within a Military and Federal Installation Area under the Pinelands Plan, the principal issue associated with New Hanover's conformance process was the extent to which military lands were regulated by the township's planning documents. The township's 1979 master plan and land development ordinance dealt strictly with the civil portion of the township and did not exercise planning jurisdiction over the military lands. Therefore, no amendments to these documents were necessary during conformance since the military lands are subject to other standards of the Pinelands Plan.

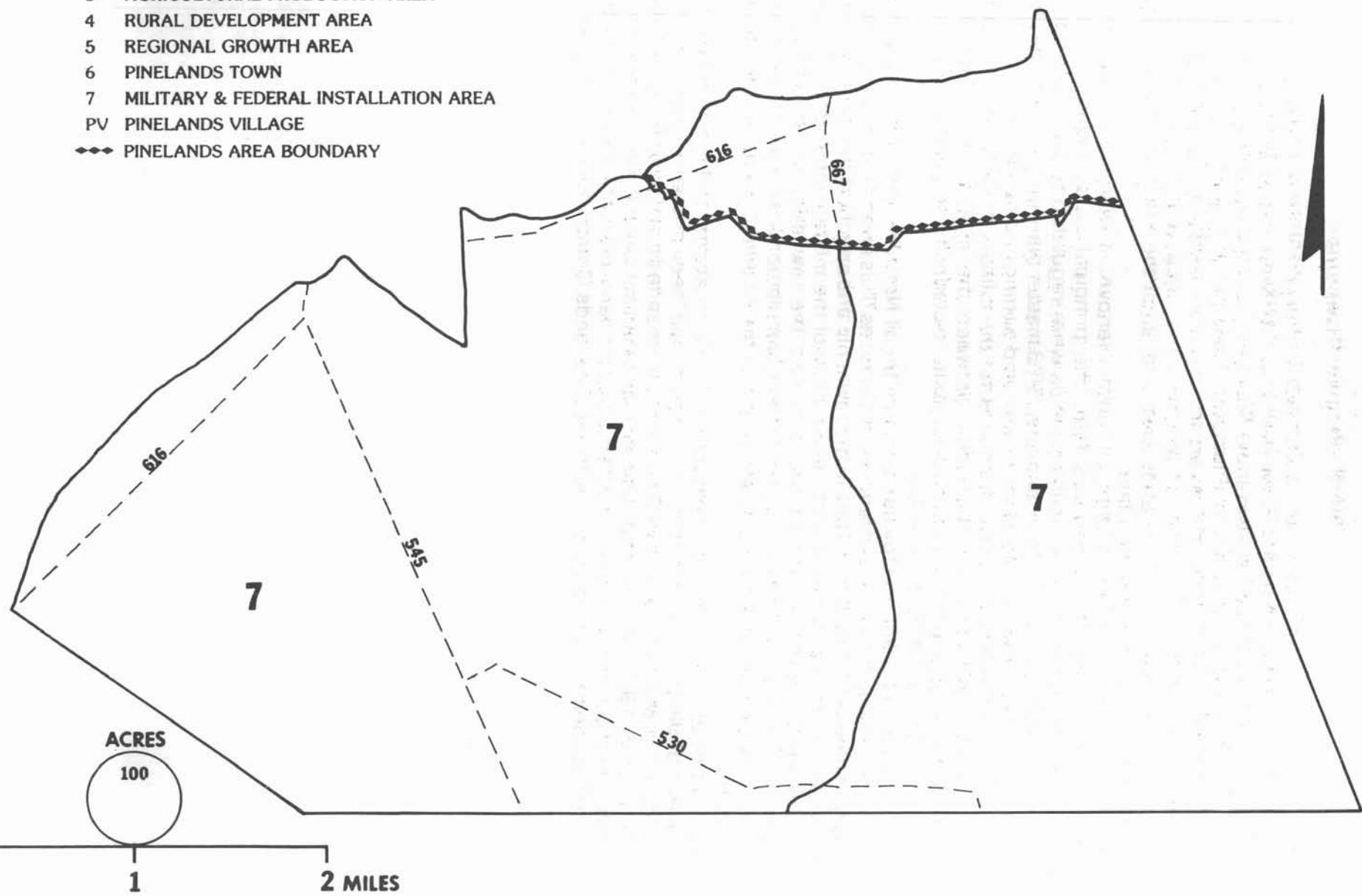
On April 24, 1981 the township committee of New Hanover adopted a resolution authorizing the submission of its master plan and land development ordinance to the Pinelands Commission for review and certification. A public hearing was held on May 27, 1981 to accept testimony on the township's application for certification. Following this hearing the Executive Director prepared a report to the Commission recommending certification of the township's planning documents. On July 17, 1981 the Pinelands Commission unanimously adopted Resolution No. 81-127, certifying without conditions the master plan and land use ordinances of New Hanover Township.

LAND CAPABILITY

- 1 PRESERVATION AREA
- 2 FOREST AREA
- 3 AGRICULTURAL PRODUCTION AREA
- 4 RURAL DEVELOPMENT AREA
- 5 REGIONAL GROWTH AREA
- 6 PINELANDS TOWN
- 7 MILITARY & FEDERAL INSTALLATION AREA
- PV PINELANDS VILLAGE
- ♦♦♦ PINELANDS AREA BOUNDARY

NEW HANOVER TOWNSHIP

II-33



North Hanover Township

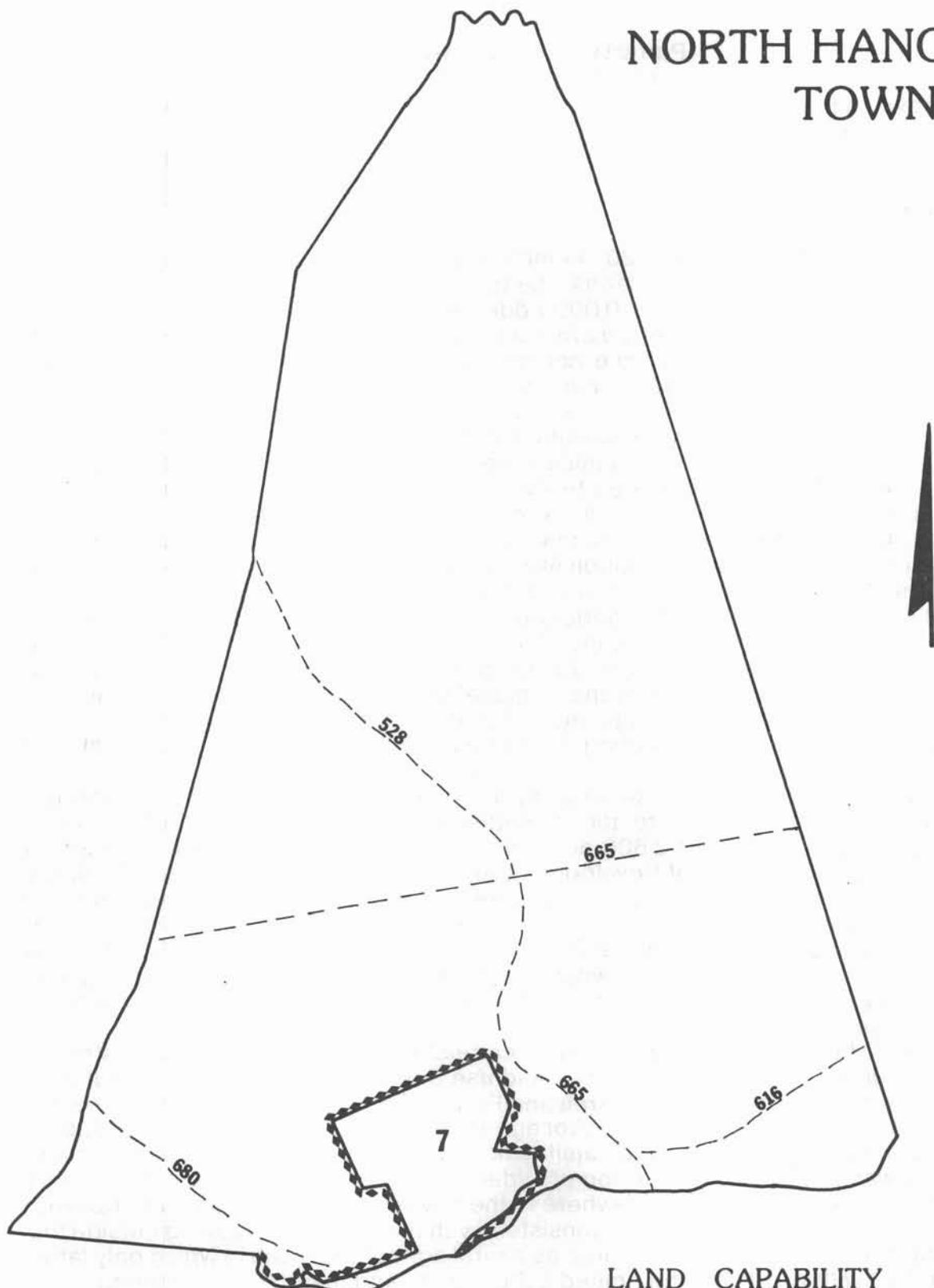
The Township of North Hanover is located in northeastern Burlington County, in the northern portion of the Pinelands Area. Pinelands municipalities which abut North Hanover include Wrightstown Borough, New Hanover Township, and Springfield Township in Burlington County. North Hanover also abuts Plumsted Township in Ocean County. The Pinelands portions of the latter two municipalities are not contiguous with the Pinelands portion of North Hanover. Approximately 470 acres of the township's total land area of 17.3 square miles (11,078 acres) lie within the Pinelands Area, and all of the Pinelands portion is within the boundaries of McGuire Air Force Base.

Since all of the Pinelands portion of North Hanover is within a Military and Federal Installation Area under the Pinelands Plan, the principal issue during the conformance process was the extent to which military lands were regulated by the township's planning documents. A staff review of North Hanover's 1978 master plan and 1980 land use ordinances (including land subdivision, site plan review, and zoning ordinances) indicated that these documents did prescribe land use standards for the military lands as they pertained to the entire township and made no distinction between the civilian and military jurisdiction. Therefore these documents needed amendments to clarify the permitted uses and standards for military lands in the Pinelands Area.

On December 14, 1981 the township committee of North Hanover adopted Ordinance No. 1981-11 amending the municipal land use ordinances. This amended ordinance established a Military and Federal Installation Area in the township and specified that permitted uses in this area would be those associated with the function of the military installation. On January 20, 1982 the North Hanover planning board revised the township master plan to reflect the existence of the Pinelands Military and Federal Installation Area and the uses permitted in this area. These amendments were submitted to the Pinelands Commission for review and certification.

A public hearing was held on February 4, 1982 to accept testimony concerning North Hanover's application for certification. A report had been prepared and forwarded to the Commission in which the Executive Director recommended that the township be fully certified. On February 5, 1982 the Pinelands Commission unanimously adopted Resolution No. 82-14, certifying without conditions the master plan and land use ordinances of North Hanover Township as being in conformance with the Pinelands Comprehensive Management Plan.

NORTH HANOVER TOWNSHIP



LAND CAPABILITY

- 1 PRESERVATION AREA
- 2 FOREST AREA
- 3 AGRICULTURAL PRODUCTION AREA
- 4 RURAL DEVELOPMENT AREA
- 5 REGIONAL GROWTH AREA
- 6 PINELANDS TOWN
- 7 MILITARY & FEDERAL INSTALLATION AREA
- PV PINELANDS VILLAGE
- PINELANDS AREA BOUNDARY

ACRES

100

0

1

2 MILES

Pemberton Township

Pemberton Township is located in eastern Burlington County, in the northwestern section of the Pinelands Area. The township's total land area is 64.7 square miles, of which 58.9 square miles (91 percent) lie within the Pinelands Area. The boundaries of the Pinelands Area and Pinelands National Reserve are coincident in Pemberton, and the only portions of the township excluded from these jurisdictions lie west of Pemberton Borough and north of Route 530.

With a 1980 census count of 29,720, Pemberton has the largest population of any municipality wholly or partly in the Pinelands. The township's population more than doubled between 1960 and 1980, with almost 10,000 added in the 1970's alone. Development in Pemberton's Pinelands Area has centered around Browns Mills in the east, near Pemberton Borough in the west, and in several lake communities spread throughout the township. Pemberton has a wide diversity of developed areas, and the landscape is varied with field agriculture, berry agriculture, and extensive upland and wetland forest types. There is also a considerable amount of large lot, rural development scattered throughout the township.

Pemberton Township is one of the few municipalities in the Pinelands that contain seven of the eight management areas designated by the Comprehensive Management Plan. The township contains Preservation Area (7,900 acres), Forest Area (6,000 acres), Agricultural Production Area (5,800 acres), Rural Development Area (5,500 acres), Regional Growth Area (6,400 acres), Military and Federal Installation Area (4,600 acres), and the Pinelands Village of New Lisbon. The Preservation Area encompasses public lands around Whitesbog and Lebanon State Forest, as well as private lands south of Route 70. The township's Forest Area extends north and west of Route 70 to Country Lakes and New Lisbon, centering around the Mount Misery Branch of the North Branch - Rancocas Creek. Rural Development Areas are scattered throughout the township, while the Regional Growth Areas are located in Browns Mills and adjacent to Pemberton Borough. Agricultural Production Areas occupy the west-central portion of the township, bordering on Southampton Township to the south and Springfield Township to the north.

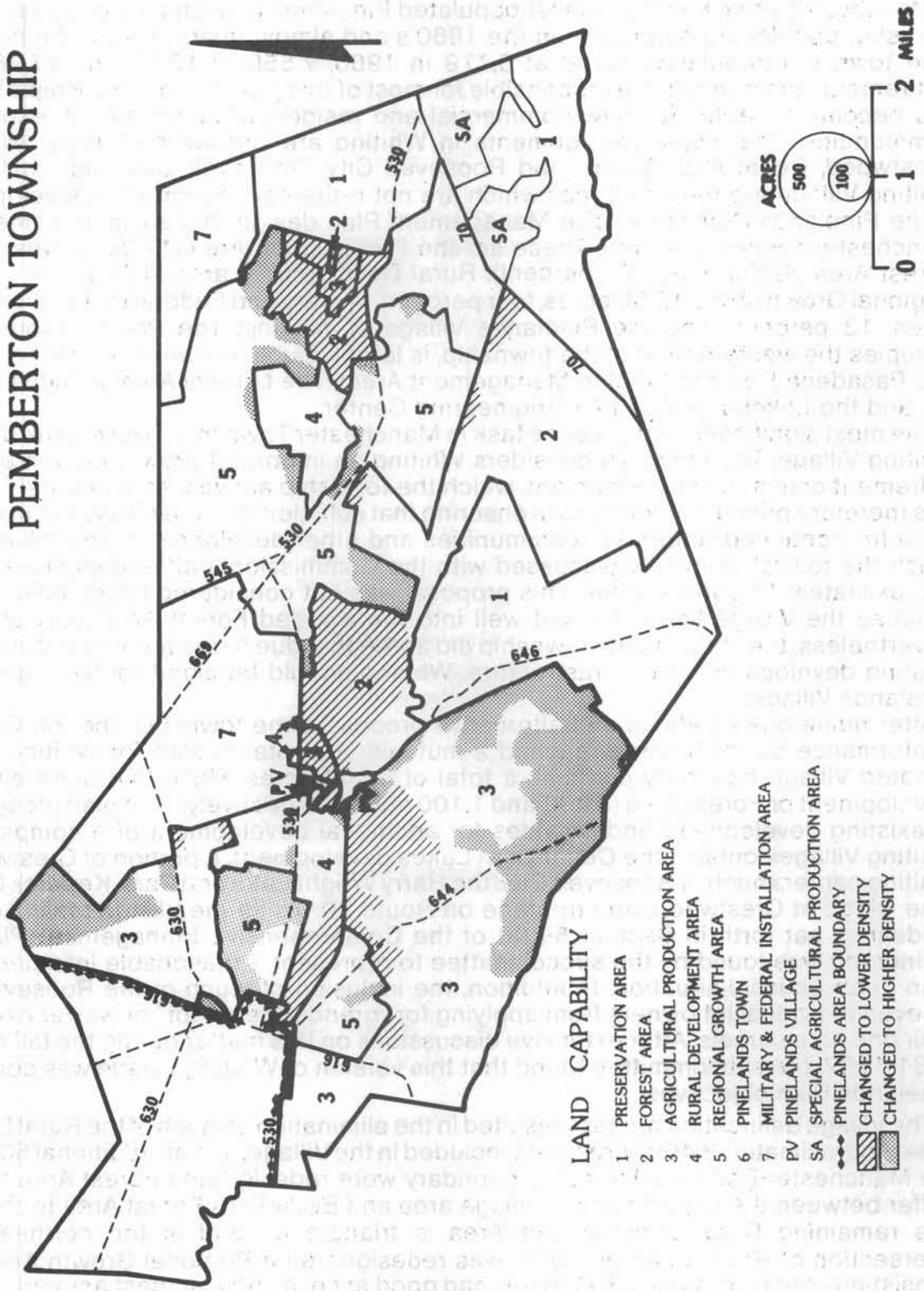
With the complexity of the landscape and diversity of management areas, Pemberton Township proposed many changes to the management area boundaries. The principal changes resulted in an increase of 2,600 acres in the Agricultural Production Area and a decrease of 2,600 acres in the Rural Development Area. Forest and Regional Growth Areas remained relatively constant. The principal shifts were from Forest and Rural Development to Agricultural Production, and from Rural Development to Forest. During conformance the township designated a Special Agricultural Production Area in a portion of the Preservation Area where active berry farms exist. The township also delineated a small Pinelands Village in New Lisbon, its size constrained by environmental limitations and a desire to maintain the area's rural character.

The main issues which arose during conformance related to provisions for age-restricted housing in the Regional Growth Area and the land use designation for an agricultural area adjacent to the township's non-Pinelands Area and Fort Dix. In the Regional Growth Area the township wanted to provide a greater density for age-restricted housing than for conventional units, and questions arose about the legal ramifications of such a designation. The issue was resolved when it was noted that Pemberton provided for a greater density for conventional housing than for age-restricted units elsewhere in the township. As for the agricultural land, the township wanted to make zoning there consistent with the agricultural zoning outside the Pinelands. Local officials designated this area as a rural agricultural zone in which only large lots were permitted with provisions for limited subdivisions and mandatory clustering.

Pemberton's conformance documents were conditionally certified by the Commission on December 3, 1982. The township's master plan was found to be consistent, with the only conditions attached to the land use ordinances. Most of the conditions were adopted verbatim by the township, including relatively minor revisions to uses, densities, housing types, and management programs for wetlands, water quality, agriculture, fire management, and energy conservation. After conditional certification the township added a zoning district for Deborah Hospital and included a landowner in the Agricultural Production Area who had asked for such a change. Since Presidential Lakes, a partially developed community, is located in the Forest

Area, the township's ordinance was conditioned to eliminate lot sizes inconsistent with that designation. Since water quality problems exist in that area, the township, in adopting the condition, also expressed an interest in reducing lot sizes if central sewers are made available to alleviate these problems. After making these amendments in April 1983, the township was fully certified by the Commission on June 3, 1983.

PEMBERTON TOWNSHIP



Manchester Township

Manchester Township is located in northwest Ocean County, in the northern section of the Pinelands Area. The township has a total land area of 82.5 square miles of which 59.5 square miles (72 percent) lie within the Pinelands Area. Approximately 72.5 square miles (88 percent) fall within the Pinelands National Reserve. The Pinelands Area includes all lands in the township lying north and west of the Central Railroad of New Jersey and southwest of the Jersey Central Power & Light right-of-way.

Manchester Township is the most populated Pinelands municipality in Ocean County. The township doubled its population in the 1960's and almost quadrupled it during the 1970's. (The township population stood at 3,779 in 1960, 7,550 in 1970, and 27,987 in 1980.) Retirement communities are responsible for most of this growth. The township's Whiting area has become a center for new commercial and residential development, especially adult communities. The major developments in Whiting are Crestwood Village, Pine Ridge at Crestwood, Cedar Glen Lakes, and Roosevelt City. Roosevelt City and small portions of Whiting Village are the only areas which are not retirement community developments.

The Pinelands Comprehensive Management Plan designated six management areas for Manchester's Pinelands Area. These are the Preservation Area (17,280 acres, 45 percent), Forest Area (9,700 acres, 25 percent), Rural Development area (4,700 acres, 12 percent), Regional Growth Area (1,700 acres, four percent), Military and Federal Installation Area (5,100 acres, 13 percent), and the Pinelands Village of Whiting. The Preservation Area, which occupies the western third of the township, is largely publicly owned (Lebanon State Forest and Pasadena Fish and Wildlife Management Area). The Military Area includes lands in Fort Dix and the Lakehurst Naval Air Engineering Center.

The most significant conformance task in Manchester Township involved the delineation of Whiting Village. The township considers Whiting an important growth center, especially for retirement community development, which the township actively encourages. The township was therefore primarily interested in ensuring that sufficient land was included in the Village to allow for continued retirement communities and other development. The Village boundary which the township initially discussed with the Commission staff encompassed an area of approximately 11 square miles. This proposal was not considered acceptable, in large part because the Village line extended well into the wooded Forest Area west of Route 539. Nevertheless, the staff and the township did agree that due to the amount and areal extent of existing development and infrastructure, Whiting should be significantly larger than other Pinelands Villages.

After numerous meetings and alternative proposals, the township and the Commission's Conformance Subcommittee reached a mutually acceptable plan for Whiting Village. The adopted Village boundary contains a total of 4,500 acres which had been either a Rural Development or Forest Area (3,400 and 1,100 acres, respectively). The plan recognizes areas of existing development and provides for additional development of a compatible nature. Whiting Village contains the Cedar Glen Lakes development, a portion of Crestwood Village, Whiting center, much of Roosevelt City, the Harry Wright Lake and Park, Keswick Grove Camp, Pine Ridge at Crestwood, and frontage on Route 70. While the Village clearly exceeds the guidelines set forth in Section 5-206 of the Comprehensive Management Plan, the area delineated was found by the subcommittee to represent a reasonable interpretation of the Plan in an unusual situation. In addition, the inclusion of much of the Roosevelt City area relieved individual lot owners from applying for "grandfathered lot" or waiver exemptions for their one acre parcels. After extensive discussions on this matter during the fall and winter of 1981-1982, the subcommittee found that this version of Whiting Village was consistent with Pinelands Plan objectives.

The Village delineation process resulted in the elimination of much of the Rural Development Area. Approximately 3,400 acres were included in the Village, and an additional 500 acres near the Manchester-Berkeley Township boundary were redesignated Forest Area to maintain a buffer between the higher density Village area and Berkeley's Forest Area to the southeast. The remaining Rural Development Area, a triangle of land in the northeast near the intersection of Routes 547 and 571, was redesignated a Regional Growth Area. This area, consisting of approximately 800 acres, had good access and a modest amount of residential

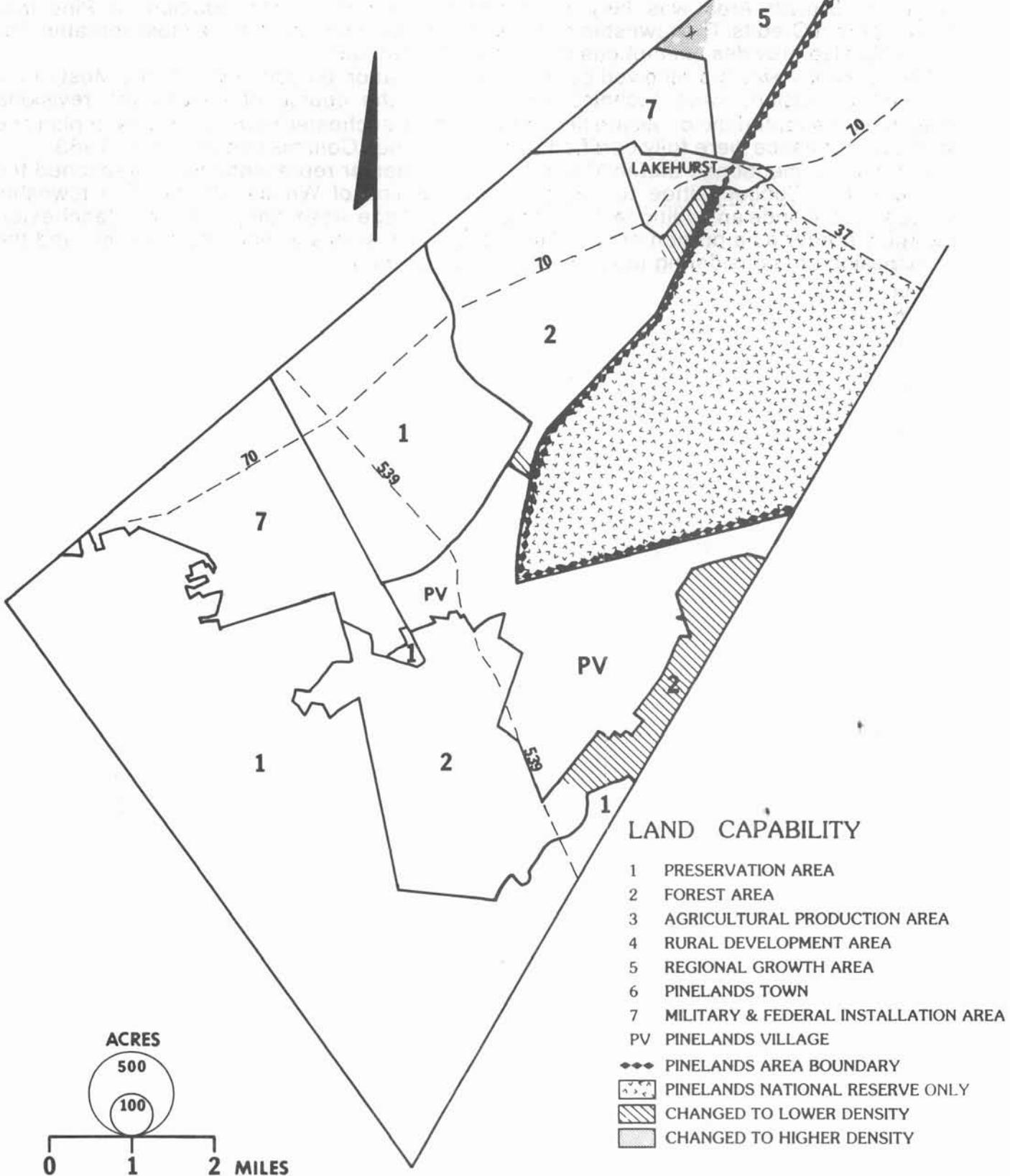
and commercial development.

Once the Village and Regional Growth Area lines were set, the remaining master plan and ordinance revisions were fairly straightforward. Neither the Military Installation nor Preservation Area boundaries could be adjusted. The Preservation Area line essentially fixed the Forest Area line, and the township decided to apply a uniform lot size in the Forest Area (20 acres). Most of the zoning requirements in Whiting Village remained the same, with the exception of one acre and 3.2 acre lots being required for unsewered development. The Regional Growth Area was largely unaffected, except for the addition of Pinelands Development Credits. The township adopted Pinelands Plan standards almost verbatim. The township also provides exemptions for "grandfathered lots."

Manchester Township received conditional certification on January 7, 1983. Most of the necessary revisions were technical in nature. In the course of making the revisions, Manchester adopted the duplicate filing procedure. Manchester Township's master plan and land use ordinance were fully certified by the Pinelands Commission on July 8, 1983.

It should be mentioned that in March 1983 Manchester representatives approached the Conformance Subcommittee to request an expansion of Whiting Village. The township proposed to include an additional 500 acres in the Village, essentially using the Manchester-Berkeley border as a portion of the Village boundary. At this writing, the township and the Commission are considering the proposed redesignation.

MANCHESTER TOWNSHIP



Southampton Township

Southampton Township is located in central Burlington County, on the northwestern side of the Pinelands Area. The township's total land area is 43.3 square miles, of which 32.1 square miles (74 percent) lie within the Pinelands Area. The boundaries of the Pinelands Area and Pinelands National Reserve are coincident in the township, and the only portions of the township excluded from these jurisdictions are north of Route 70 and west of Route 206.

During the 1960's the township population increased by nearly 60 percent, from 3,166 in 1960 to 4,982 in 1970. This was followed in the 1970's by an 80 percent increase to 8,808 people. The majority of the 1970's population increase resulted from the development of Leisuretowne, an adult community of approximately 1,600 existing dwelling units in the township's Pinelands. Other than Leisuretowne, rural development along back roads, and strip development along small portions of the major highways, the township's Pinelands Area is dominated by farms and forests. From Route 530 south there is an extensive area of field agriculture which gives way to berry agriculture and wetland and upland forests below the South Branch-Rancocas Creek. The forests include all of the dominant Pinelands forest types and support diverse vegetation. Adjacent to Leisuretowne, also in the Pinelands Area, is Big Hill landfill. Big Hill was closed in 1981 through the concerted efforts of local, county, and state officials and interested citizens.

The Pinelands Comprehensive Management Plan designates four management areas in Southampton. These are: the Forest Area (7,200 acres) which runs easterly along Route 70; the Agricultural Production Area (5,800 acres) which includes all of the Pinelands north from the South Branch-Rancocas Creek to Route 530; the Rural Development Area (6,750 acres) which extends from Leisuretowne to Route 206; and the Regional Growth Area (200 acres) which borders Tabernacle Township near Route 206.

After Southampton accepted a planning assistance grant and hired a planning consultant, its next step was to adjust the management area boundaries. The most significant change was the redesignation of 2,000 acres of berry farms previously designated as largely Forest Area (with some Rural Development) to an Agricultural Production Area. The other significant revision was the redesignation of 700 acres abutting Tabernacle's Regional Growth Area from Rural Development to Regional Growth.

The conformance process in Southampton was noteworthy because very few issues were raised. The township wanted to establish a range of densities in the Forest Area and accomplished this by designating three zoning districts. The other main issue was the status of Leisuretowne which the township wanted to expand. Southampton had previously approved over 4,000 units, of which approximately 1,600 had been built, and the township was unclear about the development's status under the Pinelands Plan. Leisuretowne's developers applied for and received a Waiver of Strict Compliance which permitted most of the previously approved development to be built. With this issue settled, the township proceeded to develop the rest of its land use and resource protection programs.

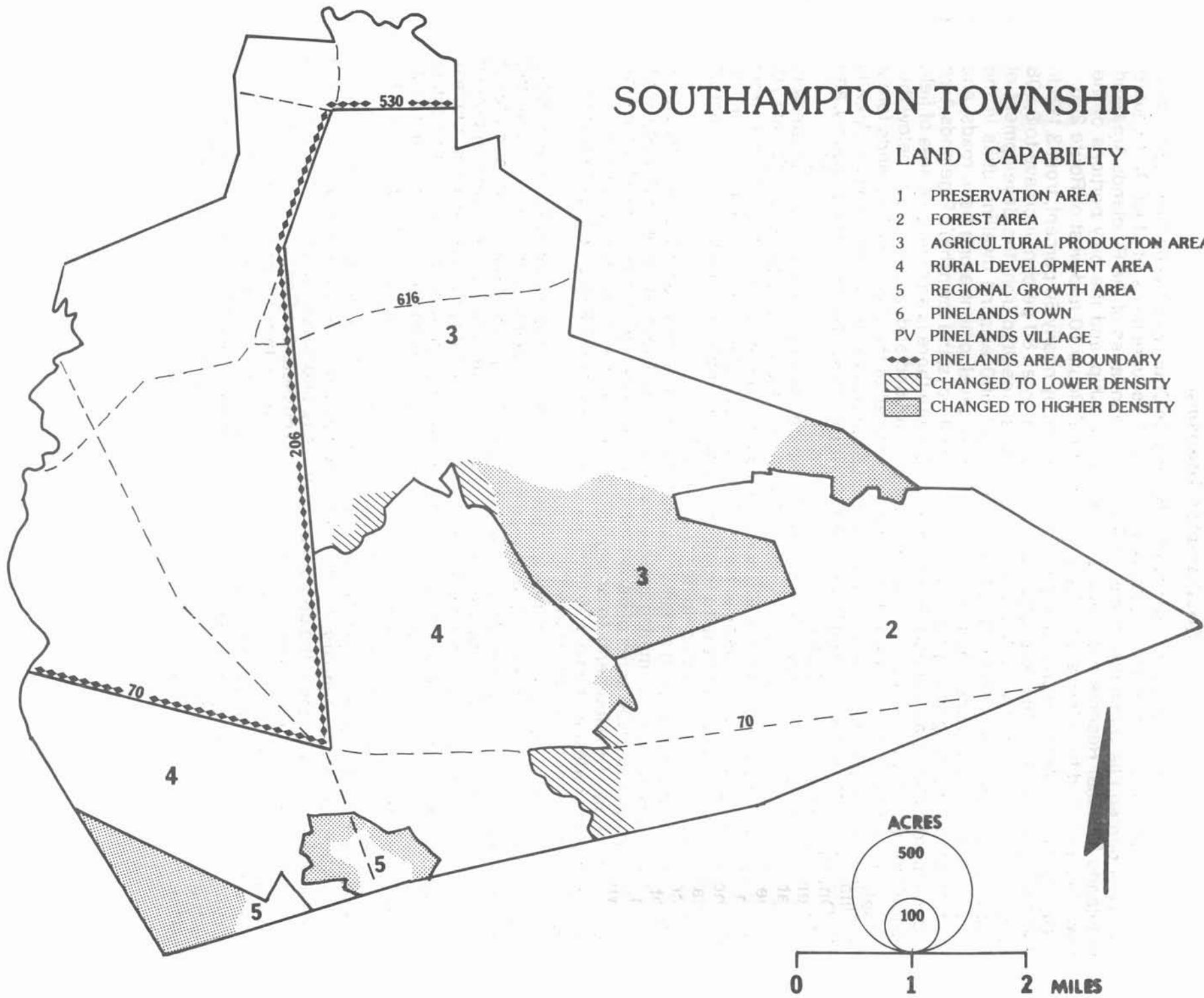
The township first applied for certification in December 1982, and was conditionally certified by the Commission on January 7, 1983. The township planner worked closely with the Commission staff throughout the conformance process, and several drafts of the township's plans and land use ordinances were reviewed and discussed. The Commission's conditional certification found Southampton's master plan consistent with the Pinelands Plan, and the only required modifications to the land use ordinance were minor technical adjustments relating to definitions, local review of commercial forestry operations, and a zoning map revision. Southampton Township's land use documents were fully certified by the Pinelands Commission on May 6, 1983.

SOUTHAMPTON TOWNSHIP

LAND CAPABILITY

- 1 PRESERVATION AREA
- 2 FOREST AREA
- 3 AGRICULTURAL PRODUCTION AREA
- 4 RURAL DEVELOPMENT AREA
- 5 REGIONAL GROWTH AREA
- 6 PINELANDS TOWN
- PV PINELANDS VILLAGE
- ◆◆◆ PINELANDS AREA BOUNDARY
- ▨ CHANGED TO LOWER DENSITY
- ▨▨ CHANGED TO HIGHER DENSITY

II-42



Springfield Township

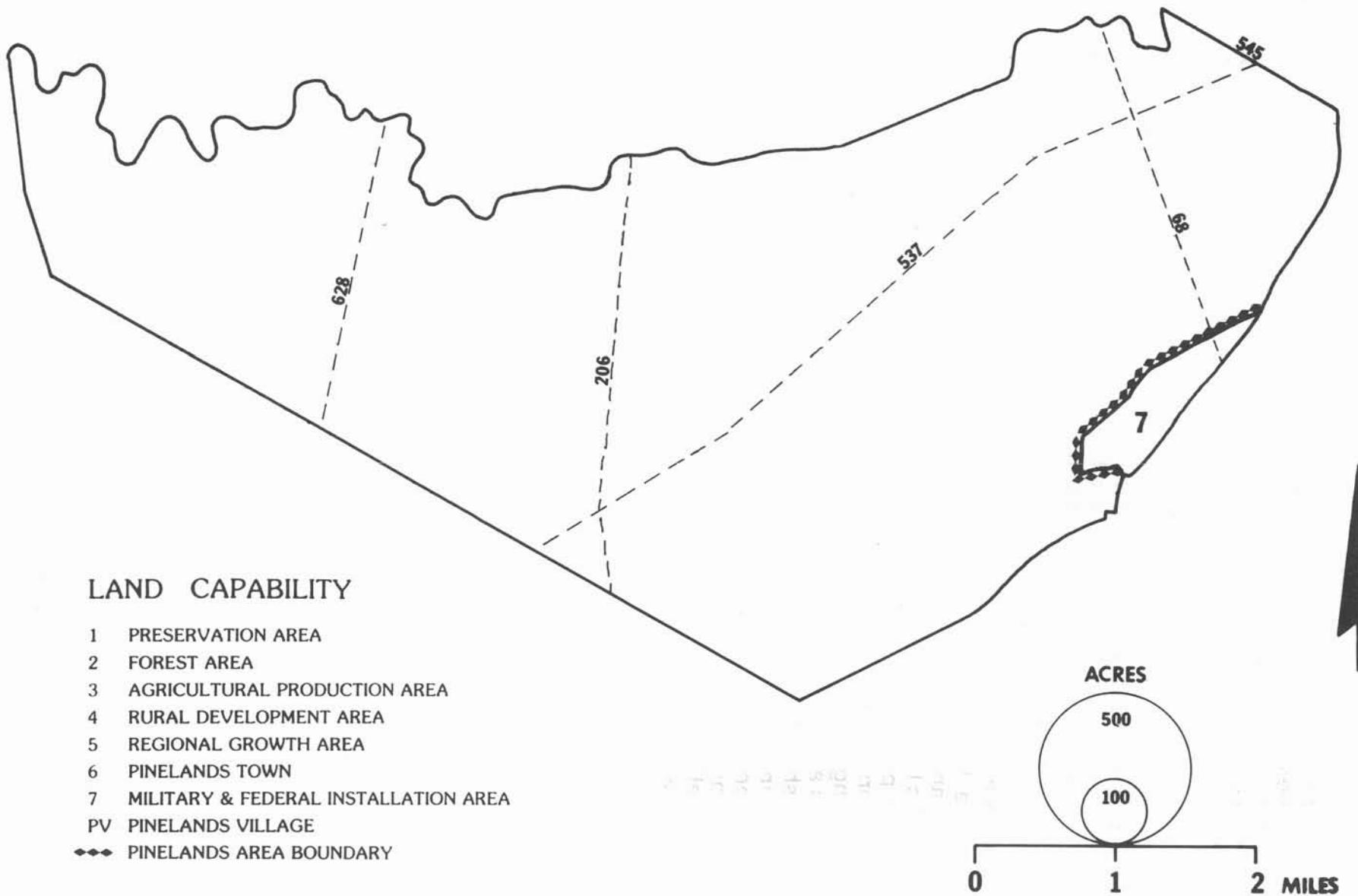
Springfield Township is located in Burlington County, in the northwest corner of the Pinelands Area. Springfield's Pinelands Area abuts the Pinelands portion of Wrightstown, and a non-Pinelands portion of Springfield abuts a Pinelands part of Pemberton Township near Juliustown. Only 360 acres of the township's total area of approximately 18,780 acres are within the Pinelands Area, and all of the Pinelands portion is within the Fort Dix Military Reservation.

Since all of the Pinelands portion of the town is within a Military and Federal Installation Area under the Pinelands Plan, the principal issue associated with Springfield's conformance process was the extent to which military lands were regulated by the township's planning documents. A staff review of the township's 1977 master plan indicated that since it did not directly address military lands, it was therefore consistent with the Pinelands Plan and required no revisions. The township's zoning ordinance, however, included the military area in an Agricultural Zone, even though the township did not exercise jurisdiction over this area. Therefore the zoning ordinance needed an amendment to clarify the permitted uses for the military area.

On August 12, 1981, the Springfield Township Committee adopted Ordinance No. 1981-2 amending the township's zoning and development ordinance. The amending ordinance established the Pinelands Area/Fort Dix Military Reservation Area as a zoning district superimposed upon other zoning districts in the township. Within this zone any use associated with the function of a federal installation is permitted, consistent with the objectives and standards of the Pinelands Comprehensive Management Plan for Federal and Military Installation Areas. The amended ordinance and master plan were submitted to the Commission for certification on August 18, 1981, and a public hearing was held on September 8, 1981. On September 11, 1981 the Pinelands Commission unanimously adopted Resolution No. 81-144, certifying without conditions the master plan and land use ordinances of Springfield Township.

SPRINGFIELD TOWNSHIP

II-44



Washington Township

Washington Township is located in southern Burlington County, in the central part of the Pinelands Area. The township's total land area is 107.3 square miles, all of which lie within the Pinelands Area and Pinelands National Reserve. The Pinelands Protection Act designates all of Washington Township within the Preservation Area.

Washington Township is the least densely populated municipality in the entire state. It is also the second largest municipality in New Jersey. A noteworthy feature of the township is that 75 percent of the land area is public open space, predominantly in Wharton State Forest. The township also contains some of the most highly prized physical, historical, and cultural resources in the Pinelands, including some of the best canoeing streams and the Batsto Historic District. The township is characterized by slow population growth, with increases of approximately 130 persons in each of the last two decades for a present population of 808. The predominant land use in Washington is berry agriculture, and the township contains some of the largest cranberry farms in New Jersey. The population centers of Green Bank and Lower Bank are near the Mullica River.

The Pinelands Plan designates Washington Township as Preservation Area with the Pinelands Villages of Green Bank and Lower Bank. The township is approximately 75 percent public land, 13.5 percent agricultural land, 8.5 percent vacant private land, and the remaining three percent is developed. The agricultural land is principally owned by several large berry farmers. The developed land is located in the areas of Green Bank, Lower Bank, Jenkins, Wading River, and Bulltown. The township is bounded by the Mullica and Wading Rivers and forms a main link in the Mullica drainage system.

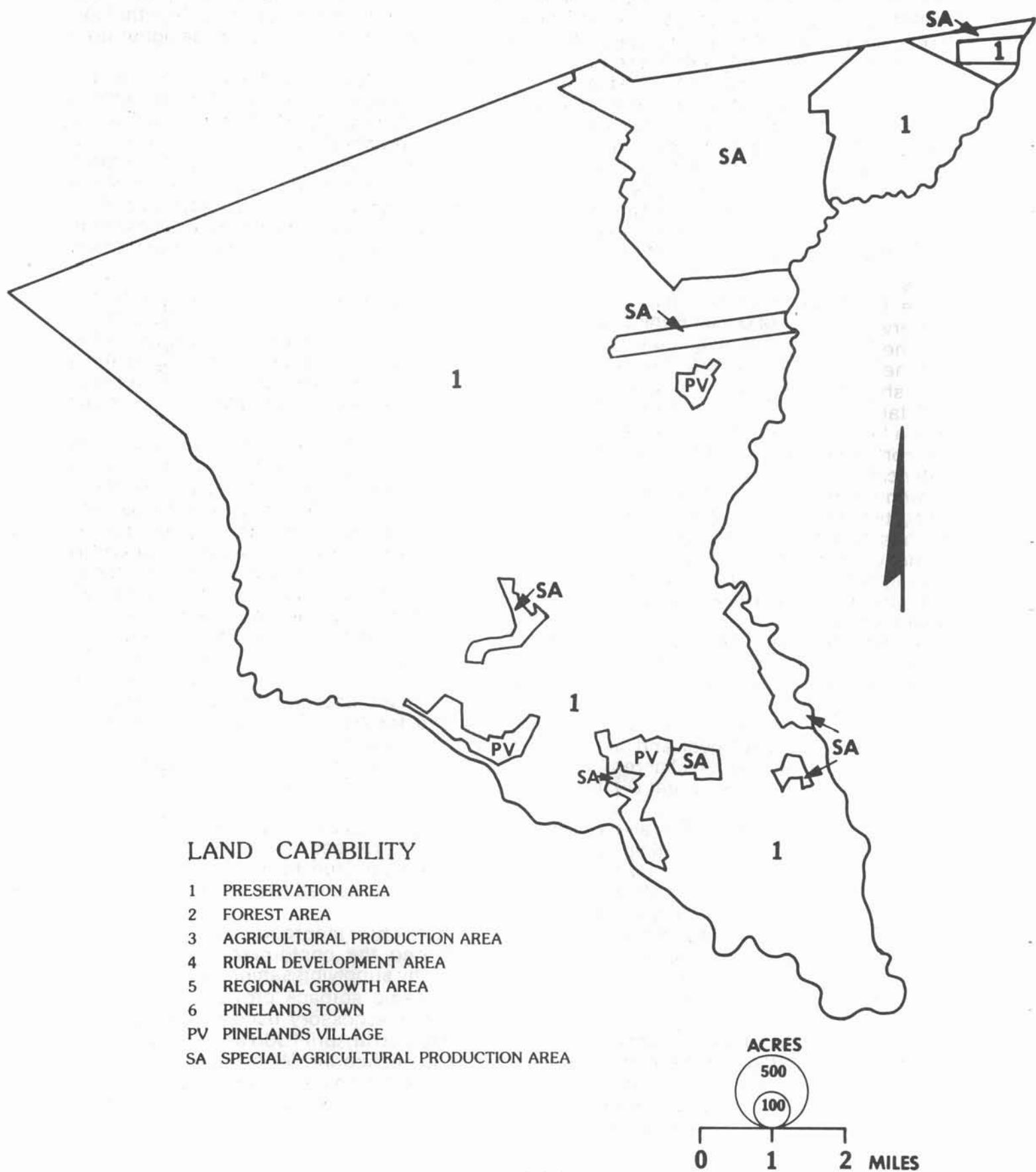
Washington Township entered the conformance process with some reluctance but subsequently contracted with the Commission in September 1981 after several discussions between the Commission staff and the township planner. From that point the township moved very rapidly in the development and adoption of its master plan. The first issue which arose was the delineation of the Pinelands Villages of Green Bank and Lower Bank. During this process the township identified two additional areas, Jenkins and Wading River, which were felt worthy of designation as Villages. The Conformance Subcommittee found that Jenkins appeared to meet the criteria for a Village, but that Wading River did not. After discussions between the staff and township officials, during which the environmental limitations of the Wading River area were reviewed, it was agreed that only Jenkins would be designated as a new Village.

A major task that was accomplished at the same time as the Village delineation was the identification of Special Agricultural Production Areas. With over 60 percent of the vacant, private land under farmland assessment, a series of maps showing farmland, watershed divides, and ownership patterns had to be prepared for the delineation. The township planner's knowledge of local land use patterns thus became extremely valuable. The resulting land use plan allocated 1,150 acres (two percent of the township) to Villages, 8,185 acres (12 percent) to Special Agricultural Districts, and 58,820 acres (86 percent of the township, 87 percent publicly owned) to the Pinelands Preservation Districts.

With the land use plan essentially completed, the township rapidly completed the remainder of the master plan. The township planning board adopted a revised master plan in July 1982 and proceeded to revise the land development ordinance. Due to the lack of available grant money for planning assistance, the township consultants had to prepare much of the ordinance without Commission reimbursement.

Very few issues, other than those related to the complexity of incorporating Pinelands Plan requirements into a municipal ordinance, arose during the conformance process. The Commission staff provided what assistance they could by supplying sample ordinances and reviewing early drafts. The township modified the scenic setback provision to alleviate concerns about fire fighting access and added certain accessory uses specific to local conditions. The land development ordinance was introduced in April 1983 and finally adopted on July 7, 1983. After the Commission's review and public hearing, Washington Township's master plan and ordinance were fully certified by the Commission on August 5, 1983. Washington Township thus became the fourth municipality, other than military towns, to be fully certified on its first application to the Commission.

WASHINGTON TOWNSHIP



Woodland Township

Woodland Township is located in southeastern Burlington County, in the center of the Pinelands Area. The township has a land area of 95.4 square miles, all of which is in the Pinelands Area and Pinelands National Reserve. The Pinelands Protection Act designates all of Woodland Township as within the Preservation Area.

Woodland is the second largest municipality in Burlington County and one of the most sparsely populated. The township's population grew by 128 people in the 1960's and 253 in the 1970's (growth rates of seven percent and 12 percent per decade, respectively) to its 1980 population of 2,285. Approximately 50 percent of the township's population is composed of residents of the New Lisbon State School. Woodland contains the village of Chatsworth, often referred to as the "Capital of the Pines," as well as some of the Pinelands' most highly valued resources, including the West Plains and Lebanon State Forest. The southern portion of Woodland drains to the Mullica River, while much of the northern part drains into the South Branch of the Rancocas Creek. The township contains all types of typical Pinelands landscapes, natural features, and vegetation and has extensive cranberry and blueberry farms.

The Pinelands Comprehensive Management Plan designates Woodland Township as Preservation Area with the Pinelands Village of Chatsworth. Township officials were concerned that the entire township was designated by the legislature as Preservation Area, and they felt that the Commission's regulations for the Preservation Area were unfair and overly restrictive. Township officials expressed these reservations when they first showed interest in a planning assistance grant in January 1981 and did not actually contract with the Commission until March 1982. The contractual delay was primarily a result of Woodland's reluctance to accept the condition that the township might have to return grant monies if it failed to achieve full certification.

Even though a contract was not signed until March 1982, township representatives met many times with the Conformance Subcommittee and Commission staff during 1981 to discuss conformance-related issues. Township officials were very concerned about the fiscal impact of the Pinelands Plan and discussed with the subcommittee certain land use options which might benefit the township financially. Throughout this period the township planning consultant was involved in the preparation of proposed land use maps and background studies for the master plan.

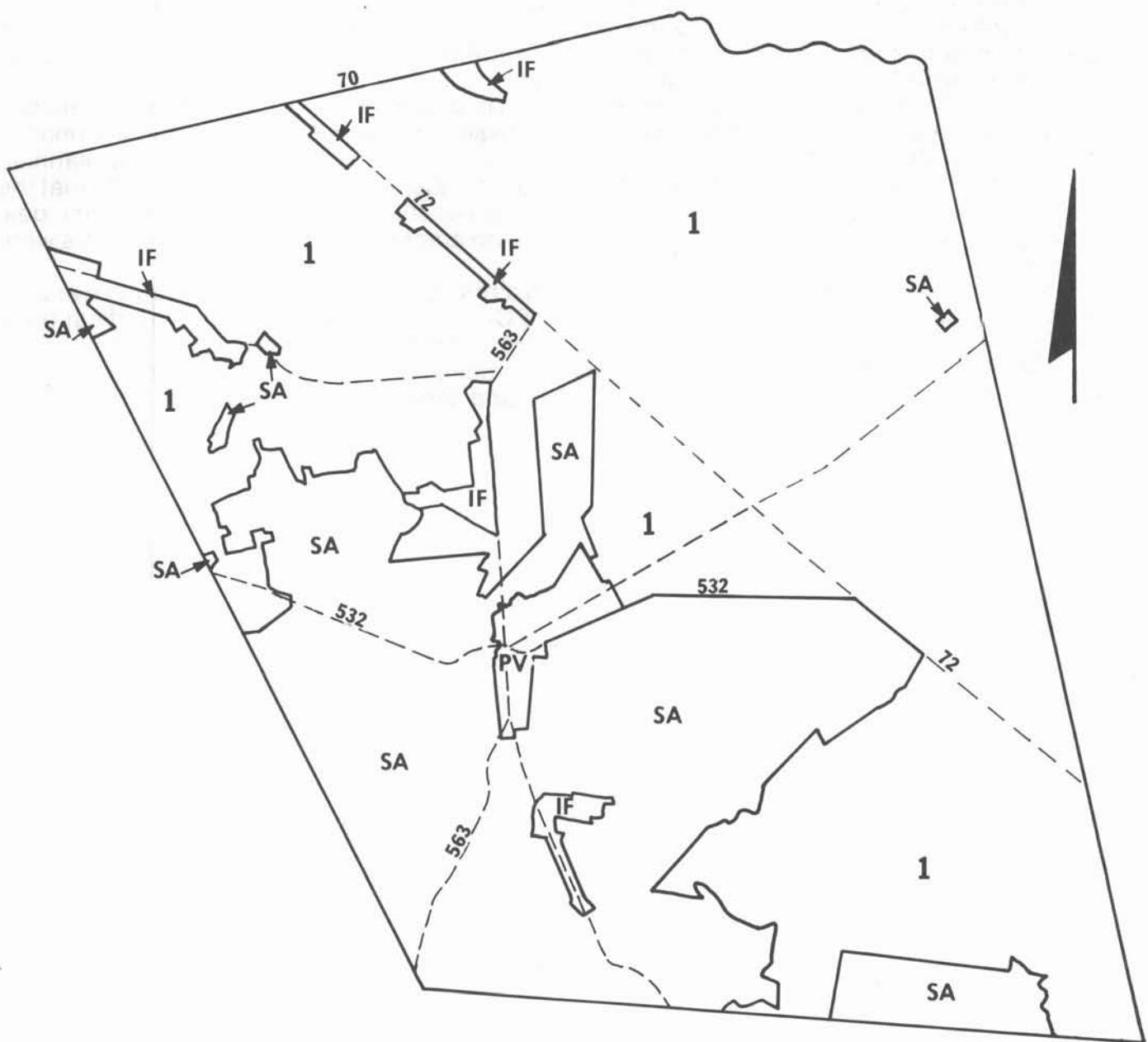
The township proposed the delineation of a large development area in the Rancocas Creek drainage basin which would serve as either a site for senior citizen housing or as an area to accept development rights transferred from within the township. The Conformance Subcommittee did not concur with this recommendation since it was viewed as a major change from the Pinelands Plan and contrary to the goals set forth in the Pinelands Protection Act for the Preservation Area. Other items raised by the township were the designation of mining/conservation zones for existing, registered resource extraction operations, the delineation of residential development areas, and the designation of commercial areas along Route 72, both in areas of existing development. The Conformance Subcommittee agreed to these recommendations as they were consistent with the goals and objectives of the Pinelands Protection Act for the Preservation Area and did not violate the Act's requirement that the Commission preserve an extensive and contiguous area of land in its natural state. After the subcommittee agreed to these concepts, a great deal of time was spent on defining the areas and regulations which would be covered by these designations.

By the late spring of 1982 the township's master plan was ready for adoption, but it was never formally submitted to the Commission for review and certification, in part because some of the Commission's informal suggestions regarding the draft master plan were not acceptable to the township. Discussions continued with the township through early 1983, at which time a revised master plan was developed. The township prepared land use ordinances with the aid of the Commission staff. These ordinances incorporated those items on which the township and the Commission agreed. These included the designation of infill residential and commercial areas, zoning districts for continued mining, the delineation of Chatsworth Village, the creation of Special Agricultural Production Areas totaling 20,900 acres, and the minor development filing option. Both the master plan and revised ordinances were adopted in August 1983 and the ordinances included innovative provisions relating to deed restrictions of non-contiguous

property to meet minimum lot area requirements, as well as a provision for accessory farm housing in the Special Agricultural Production Area. Woodland Township was fully certified by the Pinelands Commission at its September 9, 1983 meeting, becoming the fifth municipality (other than towns with only military lands in the Pinelands) to be fully certified on its first application to the Commission. Township officials have indicated a desire to continue discussions with the Commission concerning additional land use techniques which may be useful in resolving outstanding issues, most of which center on township fiscal problems.

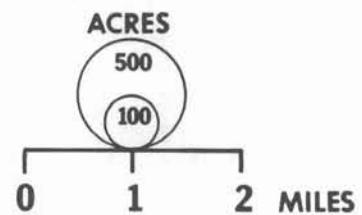
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WOODLAND TOWNSHIP



LAND CAPABILITY

- 1 PRESERVATION AREA
- 2 FOREST AREA
- 3 AGRICULTURAL PRODUCTION AREA
- 4 RURAL DEVELOPMENT AREA
- 5 REGIONAL GROWTH AREA
- 6 PINELANDS TOWN
- 7 MILITARY & FEDERAL INSTALLATION AREA
- PV PINELANDS VILLAGE
- IF INFILL DEVELOPMENT
- SA SPECIAL AGRICULTURAL PRODUCTION AREA



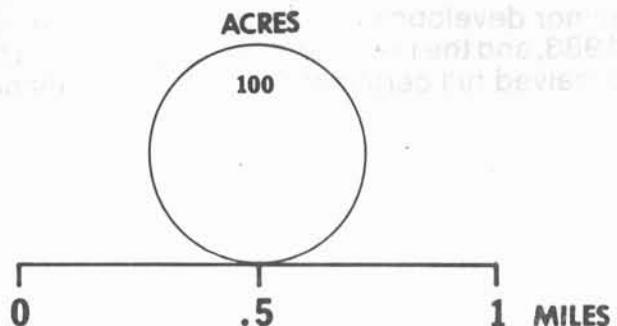
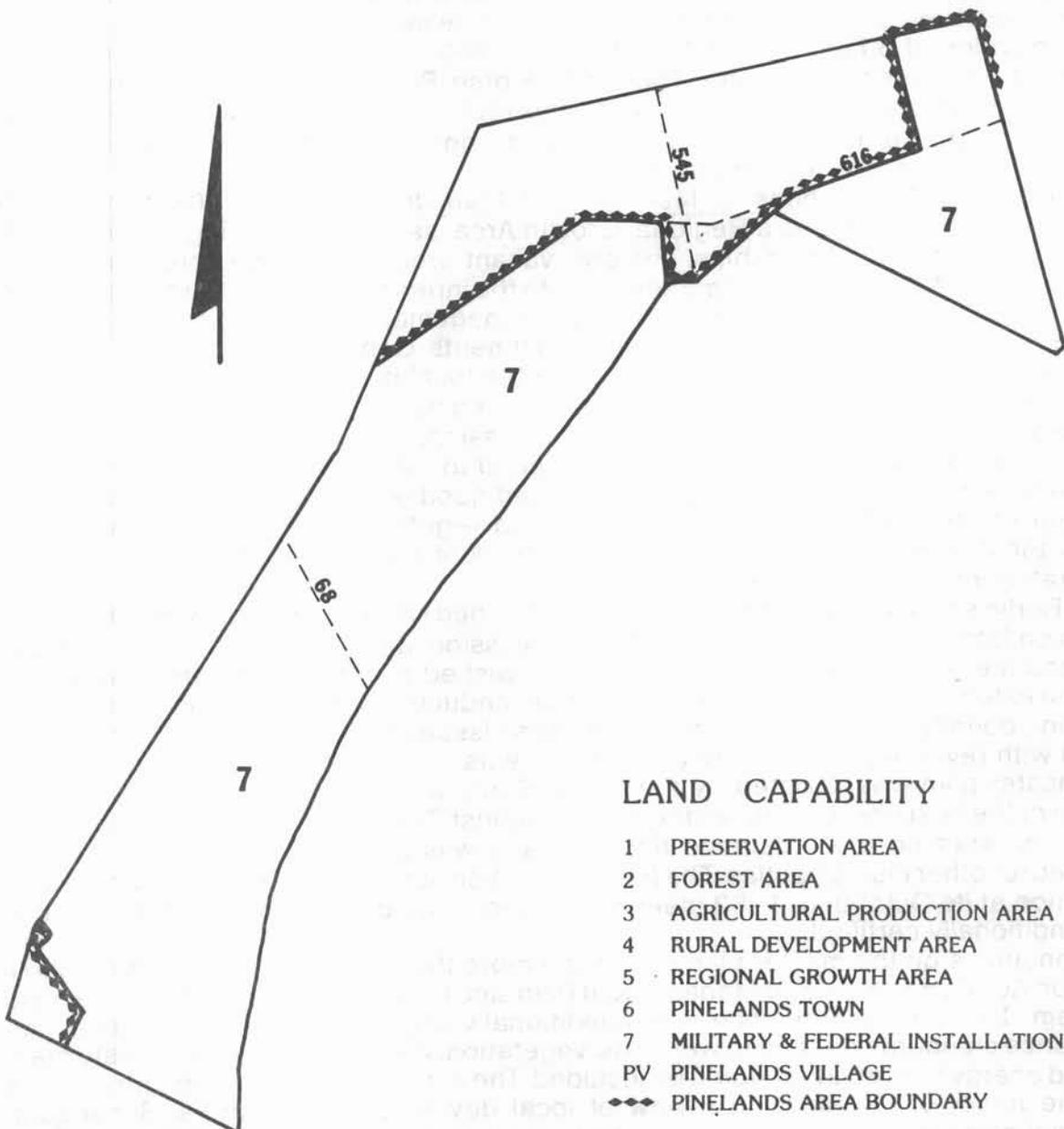
Borough of Wrightstown

The Borough of Wrightstown is located in Burlington County, in the northwest corner of the Pinelands Area. Wrightstown's Pinelands Area abuts the Pinelands portions of Springfield, Pemberton, New Hanover, and North Hanover Townships. Approximately 807 acres of the borough's total area of 1,060 acres are within the Pinelands Area, and all of the Pinelands portion is owned by the Department of Defense.

Since all of the Pinelands portion of Wrightstown is within a Military and Federal Installation Area under the Pinelands Plan, the principal issue associated with Wrightstown's conformance process was the extent to which military lands were regulated by the borough's planning documents. The borough's 1979 master plan and land use ordinances explicitly state that the borough does not exercise planning and land use jurisdiction over the military areas and deal strictly with the borough's civil portion. Therefore, no amendments to these documents were necessary during conformance.

On July 9, 1981, the borough council adopted a resolution to submit the borough's master plan and land use ordinances to the Pinelands Commission for review and certification. A public hearing was held on July 29, 1981 to accept testimony on the borough's application for certification. On August 7, 1981, the Pinelands Commission adopted Resolution No. 81-140, certifying without conditions the master plan and land use ordinances of Wrightstown Borough.

WRIGHTSTOWN BOROUGH



Berlin Borough

Berlin Borough is located in southern Camden County, on the western side of the Pinelands Area. The borough's total land area is 3.6 square miles, of which .4 square miles, or 11 percent, is located within the Pinelands Area. The Pinelands Area and Pinelands National Reserve boundaries are coincident in the borough, and the only portion of Berlin within the Pinelands is the area which drains into the Mullica River. The borough's Pinelands Area abuts the Townships of Berlin, Waterford, and Winslow.

Berlin Borough has grown steadily during the past 20 years, increasing in population by 40 percent in the 1960's to approximately 5,000 and growing by 16 percent in the 1970's to its 1980 population of 5,786. Growth has slowed recently as available land was used up and because of a borough sewer ban. The White Horse Pike runs through the borough, and development has traditionally focused along this route. The southeastern portion, which is in the Pinelands Area, is about two-thirds developed, principally with commercial and industrial uses, but also with some residential uses.

The Pinelands Comprehensive Management Plan designates all 200 acres of Berlin Borough's Pinelands Area as a Regional Growth Area, as are the abutting sections of Berlin Waterford, and Winslow Townships. The only vacant properties in the borough's Pinelands Area are in the extreme southeast corner, close to the intersection of the White Horse Pike and Route 73. Since the borough has only one management area, and that predominantly developed, there was no need for mapping adjustments. Conformance issues simply related to determining the types of changes needed in the local plan and ordinances.

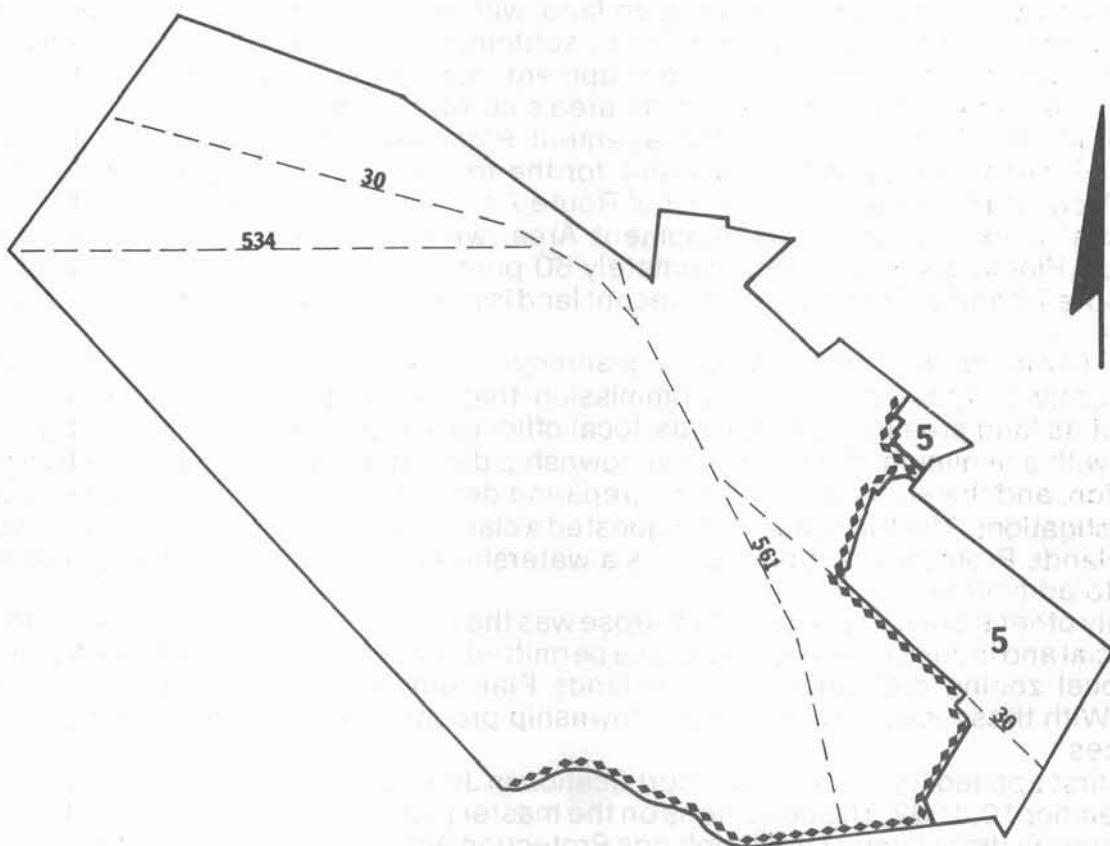
The borough first applied for a Commission planning assistance grant in January 1981 and subsequently contracted that spring. Initial discussions with the borough focused on the changes in municipal documents that were needed to satisfy the requirement for a natural resource inventory. Berlin's 1979 master plan had good resource information, and the only significant changes needed were in the soils and vegetation sections. For the vegetation analysis, the Commission staff provided a field check of vegetation types. This information is incorporated into the 1982 master plan addendum.

Since Berlin's Pinelands Area boundary is a watershed line, the borough wanted clarification as to which lots were in the Pinelands. The Commission staff surveyed the area to provide a more accurate delineation. Berlin Borough also wished to retain its existing zoning to the maximum extent practical. The Commission staff conducted a land use survey in the borough, and zoning boundaries were confirmed. With these issues resolved, the borough was able to proceed with revisions to its conformance documents.

The master plan was adopted by the Berlin Borough Planning Board in July 1982, and adoption of the land use ordinances followed in August. The borough planner worked with the Commission staff on the ordinance revisions and was provided with sample ordinances developed for other municipalities. The full Commission acted on the borough's application for certification at its October 8, 1982 meeting, at which time Berlin's conformance documents were conditionally certified.

The conditions on the master plan required a more thorough discussion of the Pinelands Protection Act, Comprehensive Management Plan, and the modifications to land use resulting from them. The zoning ordinance was conditionally approved on the basis that omitted performance standards relating to wetlands, vegetation, water and air quality, waste management, and energy conservation would be included. The conditions on the procedural ordinance noted the need for Commission review of local development approvals. Subsequent to conditional certification, the borough opted to incorporate the duplicate filing provision for minor development. The planning board adopted the master plan amendments in February 1983, and the mayor and council approved the amending ordinances in March. Berlin Borough received full certification from the Pinelands Commission on June 3, 1983.

BERLIN BOROUGH



LAND CAPABILITY

- 1 PRESERVATION AREA
- 2 FOREST AREA
- 3 AGRICULTURAL PRODUCTION AREA
- 4 RURAL DEVELOPMENT AREA
- 5 REGIONAL GROWTH AREA
- 6 PINELANDS TOWN
- PV PINELANDS VILLAGE
- ◆◆◆ PINELANDS AREA BOUNDARY

ACRES

100

0 .5 1 MILES

II-53

Berlin Township

Berlin Township is located in southeastern Camden County, on the western side of the Pinelands Area. The township's total land area is 3.3 square miles, of which .5 square miles (15 percent) lie within the Pinelands Area. The boundaries of the Pinelands Area and Pinelands National Reserve are coincident in the township and follow the watershed divide between the Mullica River and Great Egg Harbor River drainage basins. The only portion of the township in the Pinelands Area drains into the Mullica River.

The township experienced its greatest amount of population growth during the 1960's. During this decade more than 2,300 new residents were added, bringing the 1970 population to 5,692. The 1980 census shows a net loss of over 300 persons. Development in the township is centered in the central and western portions. The southeastern portion, which lies in the Pinelands Area, is predominantly forested land, with commercial and industrial uses along Route 73 and a portion of the East Berlin settlement area. There is no sewerage in the township, and this has hampered development opportunities, although portions of the township are slated for sewers under the area's current facilities plan.

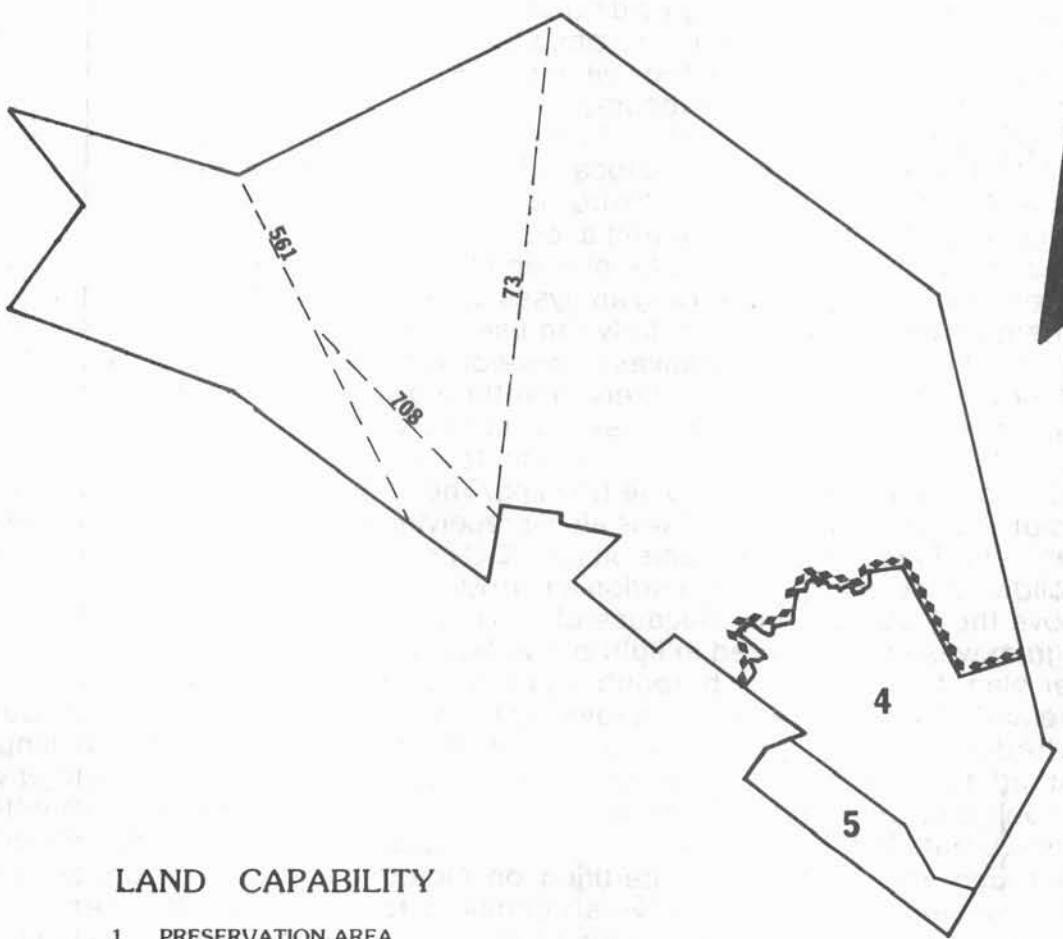
The Pinelands Comprehensive Management Plan designates two management areas, Regional Growth and Rural Development, for the township's Pinelands Area. The Regional Growth Area, which lies south and west of Route 73, is entirely developed with industrial and commercial uses. The Rural Development Area, which includes over 80 percent of the township's Pinelands Area, is approximately 60 percent undeveloped, with developed land along Route 73 and in East Berlin. The vacant land is principally upland forest with intermittent old fields.

Berlin Township first applied for a planning assistance grant in January 1981 and subsequently contracted with the Commission that spring. Since Berlin had only a small portion of its land area in the Pinelands, local officials wanted to complete the conformance process with a minimum of revisions. The township did request a clarification of the wetlands delineation, and the staff responded by preparing detailed vegetation maps based upon on-site investigations. The township also requested a clarification of the Pinelands boundary since the Pinelands Protection Act boundary is a watershed line which cuts through lots and was difficult to administer.

The only other significant issue which arose was the consistency of the uses permitted in the commercial and industrial zones with those permitted under the Pinelands Plan. A comparison of the local zoning ordinance and Pinelands Plan guidelines indicated that no conflicts existed. With these issues resolved, the township proceeded to revise its land use plan and ordinances.

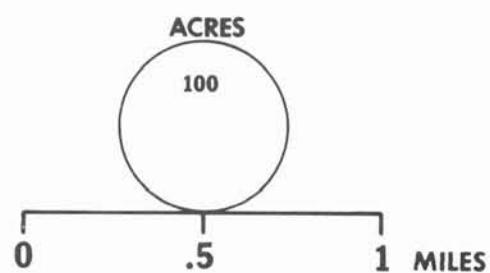
Berlin first applied for Commission certification in July 1982 and was conditionally certified on September 10, 1982. The conditions on the master plan principally related to the need for a more thorough discussion of the Pinelands Protection Act, Comprehensive Management Plan, and the modifications to land use resulting from them. The land use ordinance conditions noted that some management programs were incomplete or missing. After conditional certification, the township decided to incorporate the duplicate filing provision for minor development into the procedural ordinances. It also amended these ordinances so that all local permits issued were subject to Commission review. Berlin Township applied for and received full certification at the June 3, 1983 Pinelands Commission meeting.

BERLIN TOWNSHIP



LAND CAPABILITY

- 1 PRESERVATION AREA
- 2 FOREST AREA
- 3 AGRICULTURAL PRODUCTION AREA
- 4 RURAL DEVELOPMENT AREA
- 5 REGIONAL GROWTH AREA
- 6 PINELANDS TOWN
- PV PINELANDS VILLAGE
- PINELANDS AREA BOUNDARY



Chesilhurst Borough

Chesilhurst Borough is located in eastern Camden County, on the western side of the Pinelands Area. The borough has a total land area of 1.7 square miles, all of which is within the Pinelands Area and Pinelands National Reserve. The borough is surrounded by Winslow and Waterford Townships, and Route 30 (White Horse Pike) passes through its eastern side.

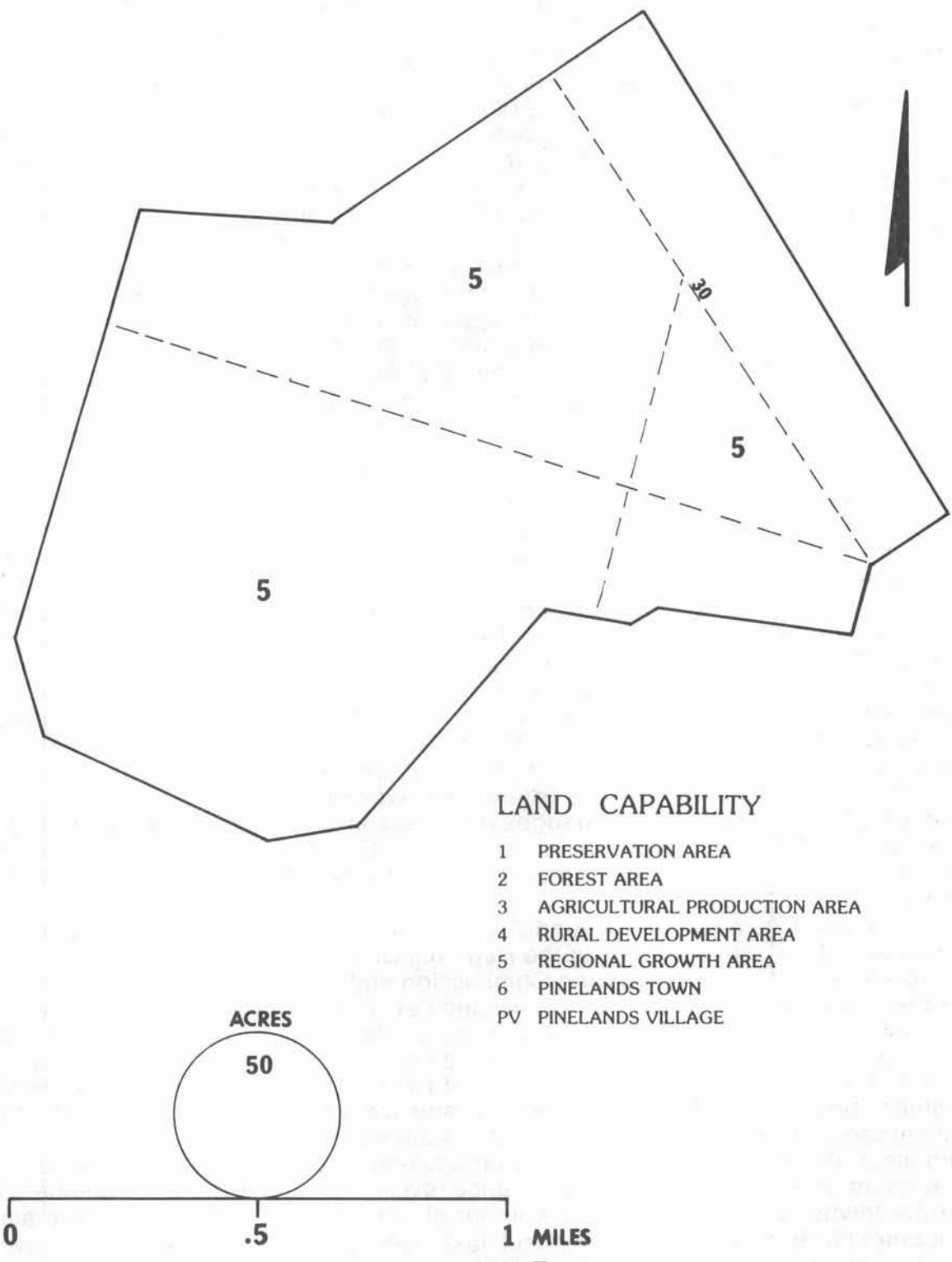
Chesilhurst lies entirely within the drainage basin of the Mullica River and is principally composed of upland hardwood forest, with traces of lowland vegetation types in the stream corridors. The borough has approximately doubled its population in each of the last two decades, increasing from 384 persons in 1960 to 1,590 in 1980. Developed land in the borough is primarily residential, with some commercial uses along the White Horse Pike. Chesilhurst contains a considerable amount of developed land, but the absence of a sewerage system has reduced its development potential.

The Pinelands Comprehensive Management Plan designates the entire borough as a Regional Growth Area, and the borough did not request any management area adjustments. The first task for the borough planning consultant was to develop a natural resources inventory. The inventory was comprehensive and well thought out, and it provided a sound basis for preparing the other land use documents. The generation and distribution of dwelling units was a significant issue in Chesilhurst since the borough acquired 46 percent of the vacant land through tax foreclosures, and local officials wanted to assure that private owners benefitted as well as the borough. Since the borough's land was not dedicated to public use, it was considered in both the generation and allocation of units.

As the borough was preparing its master plan and land use ordinances, several innovative programs were suggested by the planning analyses. Borough officials had a strong interest in promoting energy conservation, particularly the use of alternative power sources, and met with Department of Energy representatives to develop a conservation program. A mandatory program was developed to promote conservation through the use of solar energy. Also, an optional program was devised to promote energy conservation using bonus densities as an incentive. At the same time the borough suggested a bonus density provision for the development of low and moderate income housing. These two programs were permitted by the Commission, but since Chesilhurst was also a receiving area for Pinelands Development Credits, the effects of these two programs on the PDC program was a concern. The issue was resolved by allowing the energy conservation and housing programs to operate as incentives over and above the PDC program. Because of the timing of the borough's certification, its housing program was not evaluated in light of the Mount Laurel II decision.

The master plan devised by the borough was the result of a thorough effort and easily satisfied Pinelands Plan requirements. In revising its land use ordinances the borough had undertaken the difficult task of incorporating all existing land use ordinances into a single land development ordinance. Throughout the conformance process the borough planner worked closely and cooperatively with the Commission staff and Conformance Subcommittee and was able to incorporate Pinelands Plan requirements into local ordinances with little difficulty. When the borough was conditionally certified on October 8, 1982, no conditions were attached to the master plan. However, several conditions to the land development ordinance were found necessary. The required revisions consisted of procedural changes to clarify the Commission's review of approvals, as well as revisions to the resource extraction, waste management, and water quality programs. The Borough of Chesilhurst was fully certified by the Pinelands Commission at its February 4, 1983 meeting.

CHESILHURST BOROUGH



Waterford Township

Waterford Township is located in the eastern portion of Camden County, on the western side of the Pinelands Area. The township's total land area is 36.1 square miles, all of which lie in the Pinelands Area. The boundaries of the Pinelands Area and Pinelands National Reserve are coincident in the township. Waterford borders on municipalities in Burlington and Atlantic Counties as well as all of the Camden County towns in the Pinelands Area.

A review of 1960-1980 population data shows a marked difference in growth rates for the two decades. Between 1960 and 1970 the township added 264 persons, going from a population of 3,809 to 4,073 — a growth rate of only seven percent. During the 1970's the township added over 4,000 people, up to a 1980 population of 8,126, a decade increase of almost 100 percent. These new homes were built on small and medium size lots, largely in the area from Atco east to Wharton State Forest. The White Horse Pike runs through the township which is predominantly wooded except for developed areas and several farms in the southeast. There is also a berry farm in the northern part of the township near the Atco Race Track. The entire township lies within the drainage basin of the Mullica River.

The Comprehensive Management Plan designates five management areas for the township. Waterford's Preservation Area District contains 13,800 acres, all but several hundred acres of which are in Wharton State Forest. The other management areas are the Forest Area (1,150 acres) which lies in the northern part of the township adjacent to the Mullica, as well as along the stream corridor of the Wildcat Branch; the Agricultural Production Area (2,050 acres) in the southern part of the township bordering on Winslow Township and the Wharton tract; the Rural Development Area (3,100 acres) occupying the area east of Atco and bounded by Jackson Road and Wharton; and the Regional Growth Area (2,400 acres) which includes the center of Atco and the immediate surrounding area and extends down the White Horse Pike. Waterford Township did not contain a Pinelands Village under the CMP, and this was raised as an issue during the conformance process.

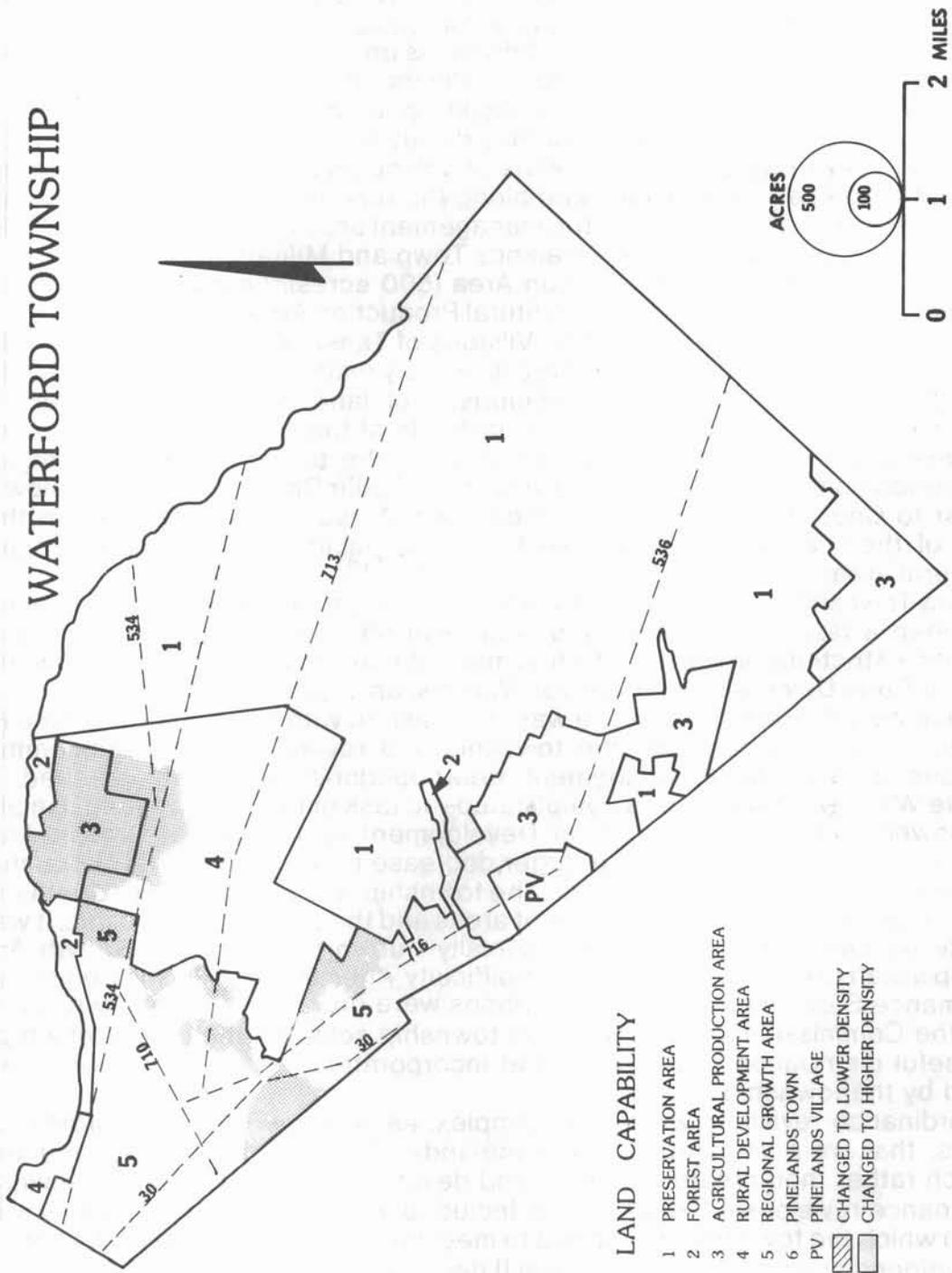
The village of Waterford Works is an old subdivided area which straddles the Winslow and Waterford borders near the White Horse Pike. The Pinelands Plan identified Waterford Works as being in Winslow but, in fact, it encompasses portions of both townships. Waterford officials pointed this out to the Commission staff and Conformance Subcommittee and subsequently designated a Village boundary. During conformance the township also made other management area changes, adding some lands to the Regional Growth Area which were adjacent to sewered areas. The Agricultural Production Area was enlarged to include a berry farm that had been in the Forest Area, and various adjustments were made in the Rural Development Area boundaries. The net results of the changes were increases in Regional Growth and Agricultural Production Areas and decreases in Forest and Rural Development Areas. The township also designated a Municipal Reserve Area of approximately 800 acres for future expansion if needed.

Since the area immediately around Atco is a mix of vacant and developed lands, the calculation and allocation of units in the Regional Growth Area was a major task during conformance. The township planner and Commission staff worked extensively on this problem since the township wished to maintain existing densities and the staff wanted to assure that the Commission's density guidelines were followed. After several reviews of the mapped information and discussions concerning the density guidelines for undeveloped lands, the township made a preliminary allocation of permitted dwelling units. This permitted the township to proceed with the remainder of its land use plan revisions, although the actual unit counts arose again in the preparation of the ordinances.

With most of the major planning issues largely resolved, the township adopted the master plan amendments in July 1982. The ordinance revisions presented a more cumbersome task since the township was combining a number of old land use ordinances into a single land development ordinance. This was a difficult task under the best of circumstances, and doing it while incorporating Pinelands revisions added to the problem. Drafts of the ordinance were reviewed by Commission staff with the township planner, and many of the difficulties were resolved. One particularly troublesome area was the township's planned development zone in which some of the development standards made certain densities unachievable.

After introducing the ordinance and making numerous revisions, Waterford finally adopted

the new land development ordinance in December 1982. The Pinelands Commission voted on February 4, 1983 to conditionally certify the township's conformance documents with no conditions attached to the master plan. The conditions on the ordinance noted the need for additions to the application and permit requirements, reductions in lot sizes in two zoning districts, the use of development credits, and additions to the vegetation, scenic, and water quality programs. The township completed a review of the current housing supply, but the Mt. Laurel II decisions came out just before conditional certification, and the township's housing program has not been reviewed in light of this development. The township modified one Commission condition to provide a lower density in a Regional Growth Area zone, an acceptable modification since the overall density was maintained. Waterford Township applied for and received full certification from the Pinelands Commission at its July 8, 1983 meeting after adopting the necessary revisions.



Winslow Township

Winslow Township is located in the eastern portion of Camden County, on the western side of the Pinelands Area. The township's total land area is 57.8 square miles, of which 46.6 square miles (80 percent) lie within the Pinelands Area. The boundaries of the Pinelands Area and Pinelands National Reserve are coincident in the township, and the only portion of the township excluded from these jurisdictions lies west of the Great Egg Harbor River northward from New Brooklyn.

Winslow Township added 2,100 people to its population in the 1960's, reaching a 1970 census count of 11,202. However, a large population increase came in the 1970's when the town grew by almost 9,000 people (on a decade long growth rate of 80 percent) to a 1980 population of 20,034. Most of this growth occurred south of Sicklerville, outside of the Pinelands Area, in an area which is served by the Winslow Crossing sewage treatment plant. Within the Pinelands, the most rapidly developing section has been around Cedar Brook, an area characterized by medium sized subdivisions on relatively small lots. The drainage divide between the Great Egg Harbor and Mullica Rivers runs through Winslow, close to Route 73. The township has a large amount of agricultural land. Most of this is concentrated in the southeast near Hammonton and Waterford, but other farms are spread throughout the township. Winslow also contains a mixture of upland and lowland forests. Older development is concentrated in several villages and along the rural roads that criss-cross the township.

Winslow Township contains all of the management areas designated by the Comprehensive Management Plan except for the Pinelands Town and Military and Federal Installation Area categories. These are the Preservation Area (500 acres), Forest Area (7,100 acres), Rural Development Area (6,400 acres), Agricultural Production Area (9,900 acres), Regional Growth Area (5,600 acres), and the Pinelands Villages of Tansboro, Waterford Works, Blue Anchor, Elm, and Winslow. The Preservation Area is entirely made up of land in Wharton State Forest. The Forest Area is predominantly comprised of land in the Winslow Fish and Wildlife Management Area and wetlands on the east side of the Great Egg Harbor River. There are Rural Development Areas scattered throughout the township, and the Regional Growth Area extends from Berlin Borough in the north to Cedar Brook and from Winslow Crossing on the west to Chesilhurst. Agricultural Production Areas are concentrated in the southeast portion of the township, and the five Pinelands Villages are principally located in older agricultural areas.

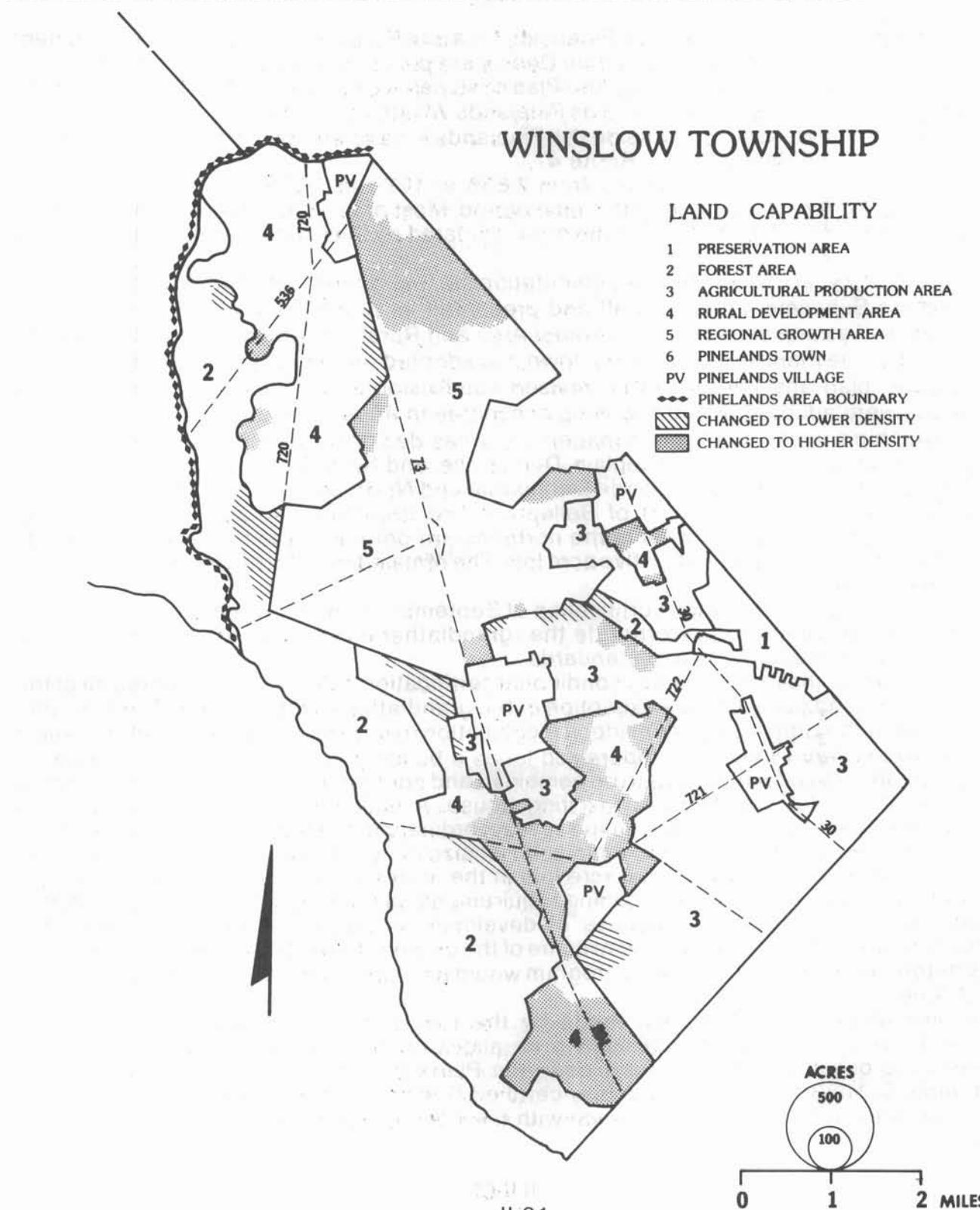
Winslow Township entered the conformance process early in 1981 but with some reluctance. It had been a fast growing township, and local officials were unhappy with some of the Pinelands restrictions on growth. The first map submitted by the township showed all Regional Growth or Rural Development Areas for Winslow, an approach that was unacceptable to the Conformance Subcommittee since it was inconsistent with the objectives of the Plan and Act. Many maps were prepared by the township and reviewed by the subcommittee, and a consensus as to the final management area boundaries was finally reached. The need to delineate Winslow's five Villages complicated the task of producing a land use plan. The final map showed increases in the Rural Development and Regional Growth Areas, a small decrease in the Forest Area, and a larger decrease in the Agricultural Production Area.

With the final land use map prepared, the township was able to proceed with the remaining tasks. Due to the number of management areas and the size of the township, it was difficult to calculate allocated units. This was especially true in the Regional Growth Area, and the township's draft master plan reflected this difficulty. After its review by the Commission staff and Conformance Subcommittee, several options were presented to the township which would satisfy the Commission's guidelines. The township selected the option which provided the most useful distribution of densities and incorporated it into the master plan which was adopted by the township in July 1982.

The ordinance revisions were also complex, as Winslow had eight ordinances, or code chapters, that were affected by the Pinelands Plan. The township opted to retain this approach rather than create a unified land development ordinance. The township adopted the ordinance revisions in August 1982. Included in the plan and ordinances was a housing program which the township developed to meet identified local needs. This housing program was developed prior to the Mount Laurel II decision and may require revisions depending on

the Attorney General's direction to the Pinelands Commission.

Winslow Township received conditional certification from the Pinelands Commission on November 5, 1982. The master plan required no revisions since it satisfied the requirements of the Pinelands Plan, but many of the ordinances required technical revisions. This was not unexpected due to the complexity of the revisions. The Commission's conditions concerned review procedures, application requirements, and the Pinelands management programs relating to waste management, resource extraction, water quality, scenic resources, and housing. The township adopted the Commission's conditions without revision and applied for and received full certification by the Pinelands Commission on April 8, 1983.



Dennis Township

Dennis Township is located in central Cape May County, at the extreme southern portion of the Pinelands Area. Pinelands municipalities which are adjacent to the township are Woodbine Borough, Upper Township (Cape May County), and Maurice River Township (Cumberland County).

Approximately 52 percent of Dennis Township (15,500 acres) is in the Pinelands Area. Ten percent of the township is in the Pinelands National Reserve but outside the Pinelands Area. The remainder (east of the Garden State Parkway) is outside both the National Reserve and Pinelands Area.

The Plan designated the township's Pinelands Area as a Forest Area and Rural Development Area. The Rural Development Areas within Dennis are primarily adjacent to existing development in Dennisville and North Dennis. The Plan designates Dennisville, North Dennis, Eldora, Belleplain, Clermont, and South Dennis as Pinelands Villages. Clermont and South Dennis are within the National Reserve but outside the Pinelands Area as are the portions of Dennisville, North Dennis, and Eldora south of Route 47.

The population of Dennis increased from 2,635 in 1970 to 3,989 in 1980. Seventy-five building permits were issued during this time period. Most of this new development occurred outside the Pinelands Area but within the area regulated by the Coastal Area Facility Review Act.

During the first year of the Plan's implementation the township initiated discussions with the Conformance Subcommittee and staff and presented its proposals for the four Pinelands Villages as well as adjustments to the Forest Area and Rural Development Area boundaries established by the Plan. In July 1982 the township adopted revisions to the land use element of its master plan and introduced its revised subdivision and zoning ordinances. These ordinances were adopted by the township committee in August 1982.

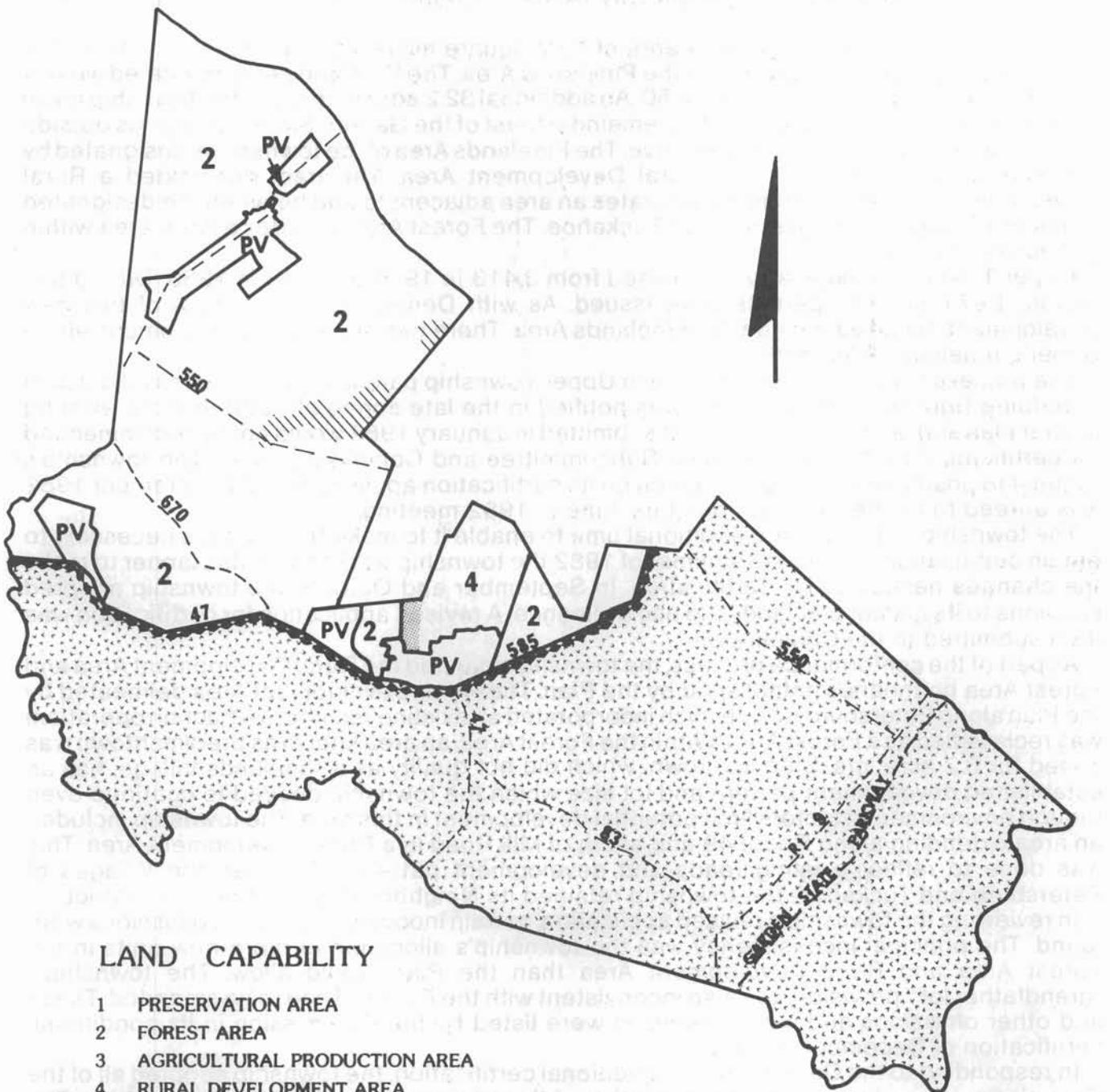
The township's revisions to the management areas designated by the Plan included the Village delineations for Eldora, Belleplain, Dennisville, and North Dennis, minor adjustments to the Rural Development Area outside Dennisville and North Dennis, and the elimination of the Rural Development Area east of Belleplain. The township also zoned several areas adjacent to Belleplain and an area in the northeastern portion of the township's Pinelands Area to permit new development on five acre lots. The remainder of the township's Forest Area was zoned for 25 acre lots.

The Commission's conditional certification of September 1982 required that the township correct minor omissions and incorporate the "grandfather lot" provision and several of the Plan's management programs and standards.

In responding to the Commission's conditional certification, the township adopted all of the Commission's conditions with the exception of the grandfathered lot provision. The township requested that the Commission consider a modification to its grandfathered lot criteria which would allow an owner to sell an undersized lot as a building lot. Under the new criteria, all contiguous undersized parcels are to be combined and contiguous lots with one owner would not qualify if one lot contained an existing house. A building lot also has to meet the environmental standards of the township's revised ordinance. To meet this alternative criteria, the township decided to increase the minimum lot size in the PF-5 district to eight acres and eliminate a small area zoned for five acre lots in the northeastern portion of the township's Pinelands Area. Because the basic zoning requirements in the Forest Area were adjusted to compensate for the potential increase in development, and because it was likely that environmental limitations would prevent some of the grandfathered lots from being built upon, it was determined that the township's program would not impair the essential character of the Forest Area.

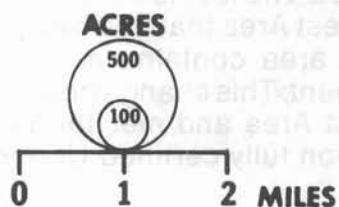
The only other material change made by the township was to increase the size of Dennisville Village. The additional land area allocated to this Village will allow limited expansion to occur, but it does not exceed the Plan's criteria for a Pinelands Village. On September 9, 1983 the Commission fully certified Dennis Township's master plan and land use ordinances as being in conformance with the Pinelands Comprehensive Management Plan.

DENNIS TOWNSHIP



LAND CAPABILITY

- 1 PRESERVATION AREA
- 2 FOREST AREA
- 3 AGRICULTURAL PRODUCTION AREA
- 4 RURAL DEVELOPMENT AREA
- 5 REGIONAL GROWTH AREA
- 6 PINELANDS TOWN
- PV PINELANDS VILLAGE
- PINELANDS AREA BOUNDARY
- PINELANDS NATIONAL RESERVE ONLY
- ▨ CHANGED TO LOWER DENSITY
- ▨ CHANGED TO HIGHER DENSITY



Upper Township

Upper Township is located in northern Cape May County, in the southern portion of the Pinelands Area. Pinelands municipalities which abut Upper are Dennis Township, Woodbine Borough (Cape May County), Corbin City (Atlantic County), and Maurice River Township (Cumberland County).

Upper Township has a total land area of 63.7 square miles (40,768 acres) of which 21.4 square miles (34 percent) are within the Pinelands Area. The Pinelands Area is located west of Petersburg Road and south of Route 50. An additional 32.2 square miles of the township are in the Pinelands National Reserve. The remainder (east of the Garden State Parkway) is outside the Pinelands Area and National Reserve. The Pinelands Area of the township is designated by the Plan as a Forest Area and Rural Development Area. The tract designated a Rural Development Area by the Plan incorporates an area adjacent to and between the designated Pinelands Villages of Petersburg and Tuckahoe. The Forest Area includes a large area within Belleplain State Forest.

Upper Township's population increased from 3,413 in 1970 to 6,713 in 1980. During this period, 1,471 building permits were issued. As with Dennis Township, most of this new development occurred outside the Pinelands Area. There has been little development within Upper's Pinelands Area portion.

The process leading to conformance in Upper Township paralleled the process followed in Woodbine Borough. The township was notified in the late spring of 1982 that the existing master plan and land use ordinances it submitted in January 1982 would not be recommended for certification by the Conformance Subcommittee and Commission staff. The township's request to postpone Commission action on its certification application until September 1982 was agreed to by the Commission at its June 6, 1982 meeting.

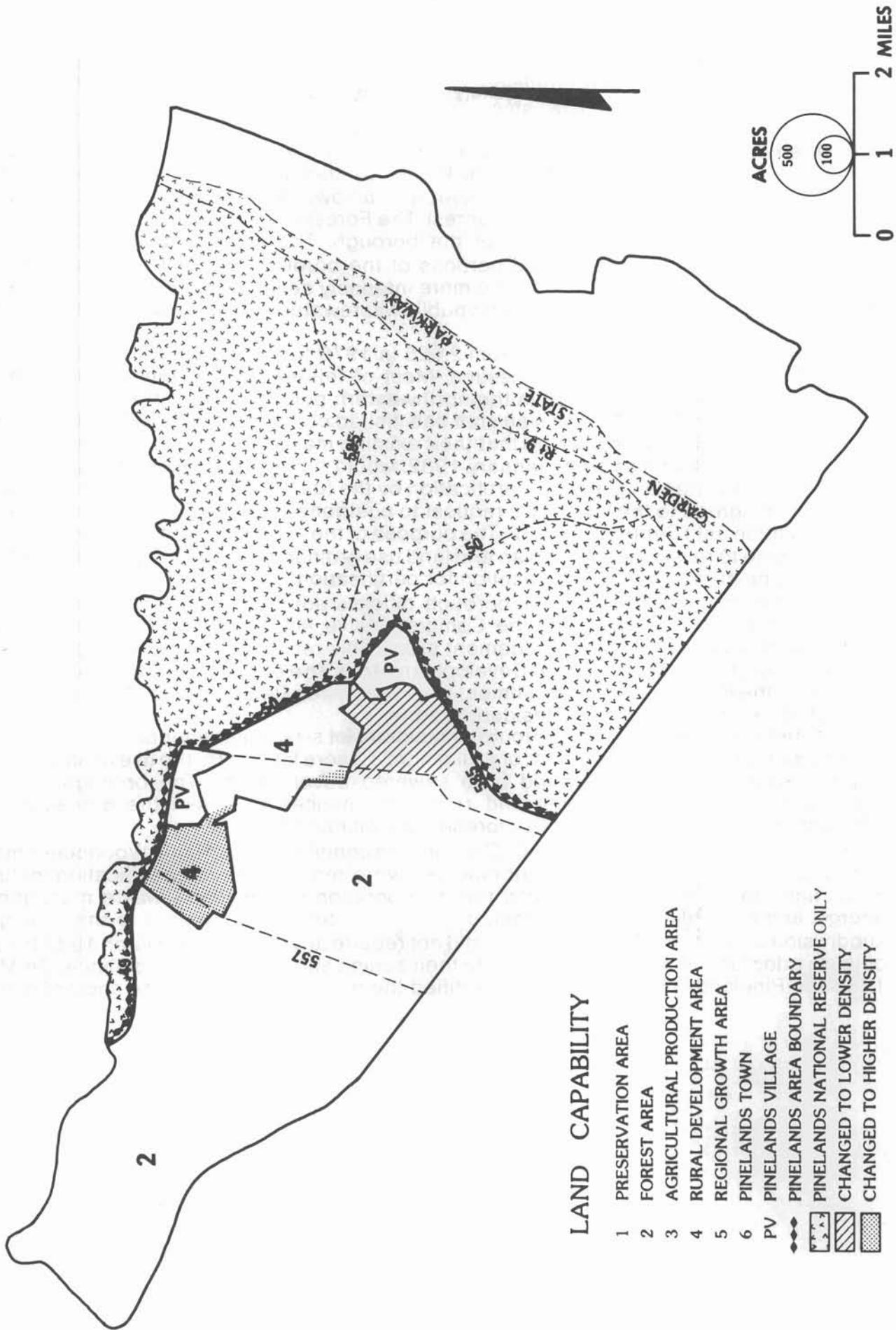
The township requested the additional time to enable it to make the changes necessary to obtain certification. During the summer of 1982 the township worked with its planner to make the changes necessary for certification. In September and October the township adopted revisions to its master plan and land use ordinance. A revised application for certification was then submitted to the Commission.

As part of the conformance process, the township adjusted the Rural Development Area and Forest Area boundaries established by the Plan. The Rural Development Area delineated by the Plan along Petersburg Road (which incorporated an existing resource extraction operation) was reclassified as a Forest Area. Within the Forest Area, an area known as Steelmantown was zoned for 3.2 acre lots. Steelmantown, which did not qualify as a Pinelands Village, has an established development pattern and lot size which the township desired to continue even though environmental factors limit potential development in this area. The township included an area extending along Route 49 and south of Mill Road in a Rural Development Area. This was done to reflect existing roads and development patterns. Between the Villages of Petersburg and Tuckahoe, the township retained its Neighborhood Commercial District.

In reviewing the township's revised application, certain inconsistencies and omissions were found. The principal inconsistency was the township's allocation of more new units in the Forest Area and Rural Development Area than the Plan would allow. The township's "grandfather lot" provision was also inconsistent with the Plan and had to be amended. These and other omissions and inconsistencies were listed by the Commission in its conditional certification of December 3, 1982.

In responding to the Commission's conditional certification, the township adopted all of the Commission's conditions with the exception of the minimum lot size in the Forest Area. The Commission's conditional certification required that the township increase the minimum lot size in the F-20 district to 30 acres to maintain the number of new units the Plan allows in a Forest Area. The township, however, desired to maintain a 20 acre lot size and reclassified part of the Forest Area that had been previously zoned as a Mining District for resource extraction use. This area contains active resource extraction operations and excludes residential development. This change compensated for the additional units the township had allocated in the Forest Area and met the intent of the Commission's conditions. On July 8, 1983 the Commission fully certified Upper Township's master plan and land use ordinances.

UPPER TOWNSHIP



Woodbine Borough

The Borough of Woodbine is located in central Cape May County, in the southern portion of the Pinelands Area. Pinelands municipalities in Cape May County which abut Woodbine are Dennis Township and Upper Township.

Woodbine Borough has a total land area of 5,058 acres of which 4,883 acres (97 percent) are within the Pinelands Area. The area east of Petersburg Road (175 acres) is located within the Pinelands National Reserve but outside the Pinelands Area. The Comprehensive Management Plan designated the borough's Pinelands Area as a Town (4,061 acres), Rural Development Area (198 acres), and Forest Area (624 acres). The Forest Area and Rural Development Area are located in the southern portion of the borough. The Pinelands Town of Woodbine incorporates most of the developed portions of the borough and includes the municipal airport and Woodbine State School. The more intensely developed portions of the Town are serviced by municipal water. There are no public wastewater treatment facilities existing in or planned for Woodbine.

Woodbine's population increased from 2,625 in 1970 to 2,809 in 1980. In this same time period, 165 building permits were issued. Most of this new development occurred in or adjacent to existing development in the northwestern portion of the borough.

Prior to June 1982 the Commission staff had limited contact with borough officials. At that time borough officials were notified that their existing master plan and land use ordinances, submitted to the Commission in January 1982, would not be recommended by the Conformance Subcommittee and staff for certification by the full Commission. On June 6, 1982 the Commission agreed to the borough's request to postpone action on Woodbine's application for certification until September 1982. The purpose of the request was to provide the borough sufficient time to revise its master plan and land use ordinances. In late September 1982, the borough submitted its revised application for certification.

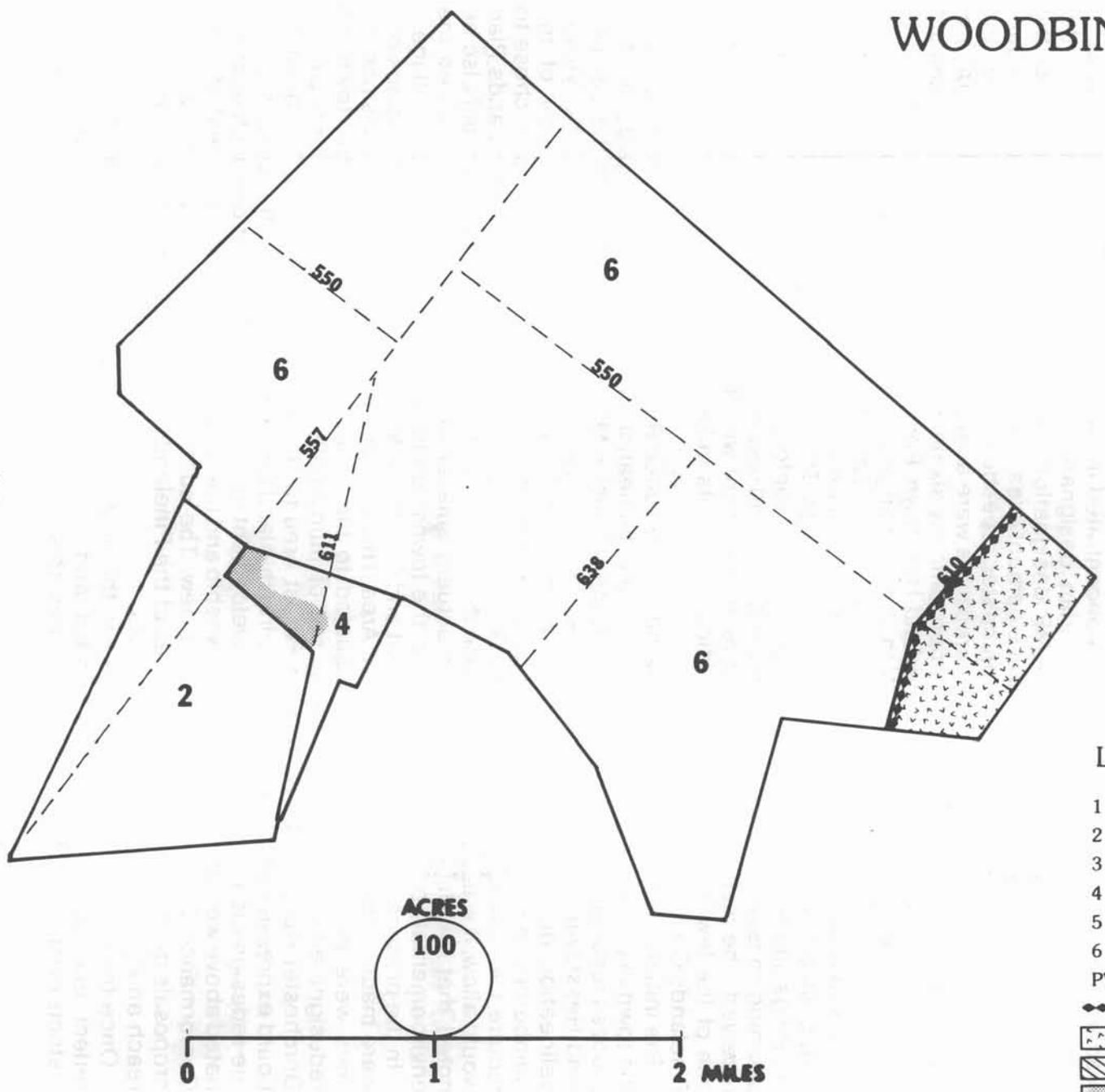
During the conformance process borough officials adjusted the Forest Area and Rural Development Area boundaries of the Comprehensive Management Plan so that existing public roads separated these management areas. This resulted in a slightly reduced Forest Area and a slightly increased Rural Development Area. The only land use change required to conform to the Plan was the establishment of a Forest Area Residential District to replace the borough's existing Agricultural/Residential zone.

The substantive change to the borough's minimum lot size requirements in the R-2, TC, and PRD districts was the establishment of a minimum 3.2 acre lot size for the use of on-site septic disposal systems as distinguished from sewerized development. The borough was also required to revise its subdivision and zoning ordinances to reflect the procedural and substantive requirements of the Comprehensive Management Plan.

On November 5, 1982 the Pinelands Commission conditionally certified Woodbine's master plan and land use ordinances. Minor changes were required for full certification including corrections to lot size requirements, the incorporation of the Plan's waste management, energy, and air quality program standards, and other technical revisions to the zoning and subdivision ordinances. The master plan did not require any changes. In March 1983 borough officials adopted the required revisions to their zoning and subdivision ordinance. On May 6, 1983 the Pinelands Commission fully certified the borough's revised plan and ordinances.

WOODBINE BOROUGH

11-67



LAND CAPABILITY

- 1 PRESERVATION AREA
- 2 FOREST AREA
- 3 AGRICULTURAL PRODUCTION AREA
- 4 RURAL DEVELOPMENT AREA
- 5 REGIONAL GROWTH AREA
- 6 PINELANDS TOWN
- PV PINELANDS VILLAGE
- ◆◆◆ PINELANDS AREA BOUNDARY
- [diagonal lines] PINELANDS NATIONAL RESERVE ONLY
- [cross-hatch] CHANGED TO LOWER DENSITY
- [solid grey] CHANGED TO HIGHER DENSITY

Maurice River Township

Maurice River Township is located in eastern Cumberland County, in the southern part of the Pinelands Area. The township has a total land area of 94.7 square miles of which 66.3 square miles (70 percent) lie within the Pinelands Area. The Pinelands Area includes all lands in the township north and east of Route 47, the Manumuskin River, and Union Road. An additional 20.7 square miles lie within the Pinelands National Reserve but outside the Pinelands Area.

Maurice River Township grew by approximately 20 percent during each of the past two decades. The population was 3,106 in 1960, 3,743 in 1970, and 4,577 in 1980. Despite this growth rate, Maurice River remains a rural community with an average density of less than 50 persons per square mile. The township is characterized by a residential pattern of small village centers arranged predominantly along the waterfront such as in Port Elizabeth, Dorchester, and Leesburg. Smaller residential concentrations occur in Heislerville, Delmont, Cumberland, and Milmay. These settlements, with the exception of Heislerville, are either in or bisected by the Pinelands Area boundary. Other important land uses in the township are public recreation and institutional uses (approximately 25 percent of the total land area is state-owned) and resource extraction. The latter use is concentrated in the Dorchester-Leesburg area.

The Comprehensive Management Plan designates three management areas for the township's Pinelands Area. These CMP designations are Forest Area (87 percent of the township's Pinelands Area), Rural Development Area (13 percent) and the Pinelands Villages of Cumberland, Port Elizabeth, Dorchester, Leesburg, and Delmont. As a result of the conformance process, management area lines were adjusted and Village boundaries delineated. The Villages now account for approximately six percent of the Pinelands Area and are referred to as the Villages of Cumberland-Hesstown, Port Elizabeth-Bricksboro, Dorchester-Leesburg, Delmont, and Milmay. With these changes, the Forest Area now makes up 80 percent of the Pinelands Area and the Rural Development Area comprises 14 percent.

Municipal officials and the Commission staff met frequently and maintained a good working relationship throughout the conformance process. The staff attended most planning board meetings and relayed township proposals to the Conformance Subcommittee. The township planning consultant met with the subcommittee, and his proposed land use plan was favorably received. The result of this cooperative arrangement was that Maurice River Township was one of the few Pinelands municipalities to have its initial application fully certified by the Pinelands Commission.

The initial conformance tasks undertaken in Maurice River Township were the updating of the township's natural resources data and the delineation of Villages. The Village delineation process resulted in variations from the Comprehensive Management Plan. Both the Cumberland-Hesstown and Milmay Villages are larger than a strict application of the Village delineation guidelines would allow. In an effort to maintain the rural character of the Cumberland and Milmay areas and accommodate more landowners, the township chose to require five acre lots for new homes. Since this is more restrictive than the Pinelands Plan would allow, it was possible to increase the size of the Villages accordingly. It should also be noted that the Village of Delmont is actually smaller than would be permitted. Given the environmental constraints in this area, the township chose to limit the size of this Village.

In the process of adjusting the Forest and Rural Development Area lines, slight expansions were made in the Rural Development Area. This increase was generally negligible since the lines were predominantly being adjusted to block and lot lines. However, the township redesignated approximately 100 acres of municipally-owned land on the north side of Dorchester-Hunters Mill Road from Forest Area to Rural Development Area. The planning board expressed an interest in developing this land for office or light industrial purposes, and the redesignation provided greater development opportunities. Modifications such as those noted above were discussed by the township and the Commission staff, then presented to the Conformance Subcommittee for its review. The subcommittee found that the township's proposals generally met the objectives of the Pinelands Plan, and both parties were able to reach an agreement on these proposals.

Once the management lines were set, the next step was to revise the zoning districts to reflect unit allocations for the Forest and Rural Development Areas. Several zoning districts existed in both management areas. This led to complications in establishing permitted

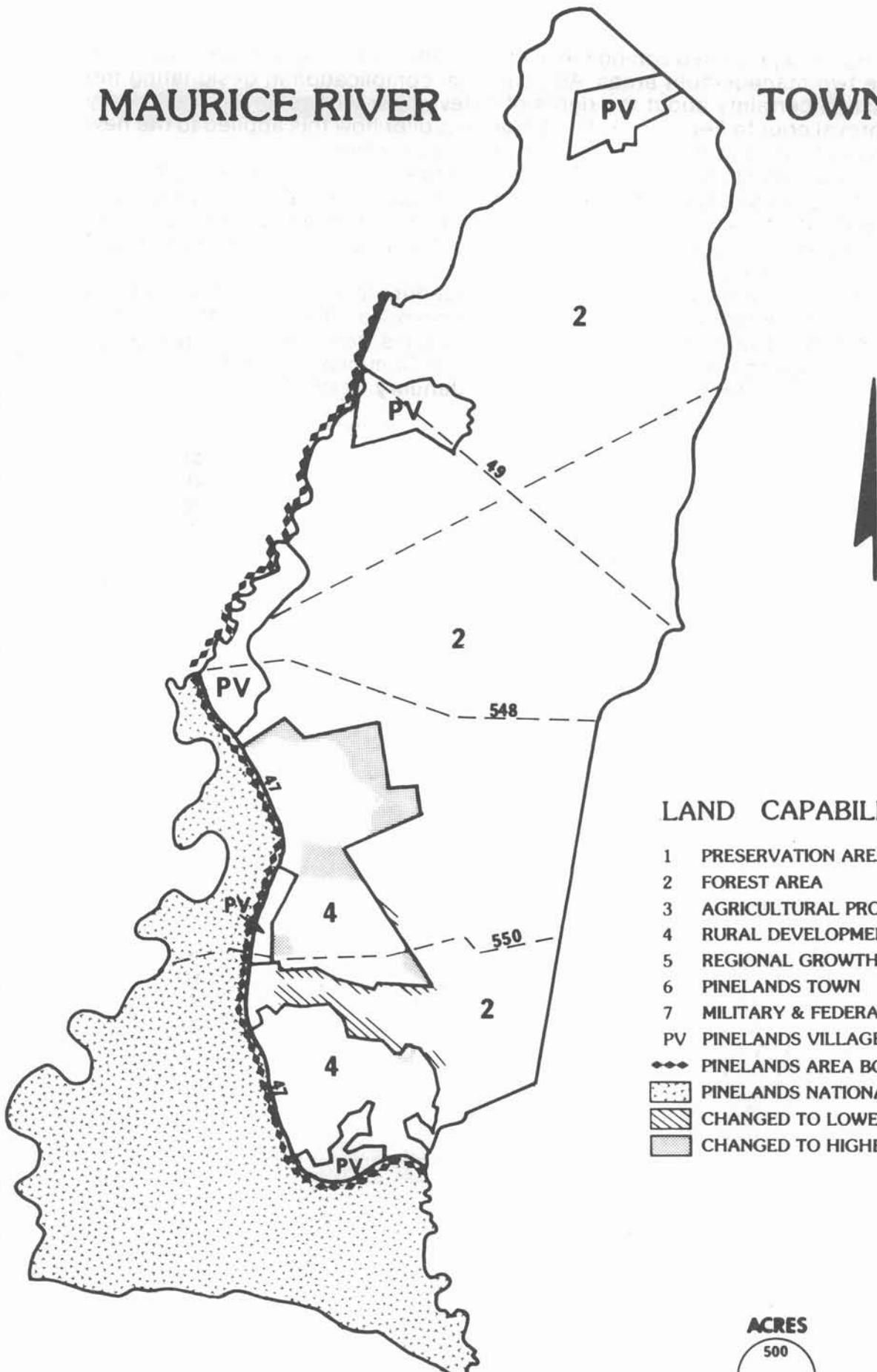
uses and determining if the proposed zoning met Comprehensive Management Plan density standards for these two management areas. An additional complication in designating the zones stemmed from uncertainty about the rights of a developer who received preliminary planning board approval prior to February 8, 1979. Concern over how this applied to the new land use plan caused changes in the zone lines on several occasions.

Maurice River officials chose to revise the master plan for the entire township and prepare a new development regulations ordinance. The ordinance incorporates all of the provisions required for the Pinelands Area of the township and uses certain Pinelands standards as guidelines for the township's non-Pinelands Area. The Commission staff reviewed and commented on the various drafts of both documents.

Maurice River Township adopted the duplicate filing procedure for minor development and provided exemptions for "grandfathered lots." The township adopted a variation of the Pinelands grandfathered lot and Pinelands native exemptions, referred to as the "Rural Residence" provision. Maurice River Township received full Commission certification of its master plan and development regulations ordinance on January 7, 1983.

MAURICE RIVER

TOWNSHIP



LAND CAPABILITY

- 1 PRESERVATION AREA
- 2 FOREST AREA
- 3 AGRICULTURAL PRODUCTION AREA
- 4 RURAL DEVELOPMENT AREA
- 5 REGIONAL GROWTH AREA
- 6 PINELANDS TOWN
- 7 MILITARY & FEDERAL INSTALLATION AREA
- PV PINELANDS VILLAGE
- PINELANDS AREA BOUNDARY
- [Dotted Pattern] PINELANDS NATIONAL RESERVE ONLY
- [Hatched Pattern] CHANGED TO LOWER DENSITY
- [Light Gray Pattern] CHANGED TO HIGHER DENSITY

ACRES

500

100

0 1 2 MILES

Vineland City

Vineland City is located in northeast Cumberland County, in the southern part of the Pinelands Area. The city has a total land area of 69.5 square miles of which 5.4 square miles (eight percent) lie within the Pinelands Area. All lands in Vineland lying east of Route 671 (Union Road) are within the Pinelands Area. No portion of Vineland is in the Pinelands National Reserve since the federal line runs along the Manumuskin River, the Vineland-Maurice River boundary line in this area.

In 1980, Vineland's population was 53,753, a 13 percent increase over the 1970 figure of 47,399. The most developed area is located around the central business district. The city's master plan describes the urban area as bounded by Park Avenue on the north, Delsea Drive on the west, Chestnut Avenue on the south, and East Avenue on the east. Residential development circling this ring has suburban characteristics. The outlying area of the city, including the Pinelands Area, is predominantly rural. With the exception of a single family development around the intersection of Union and Mays Landing Roads, the Pinelands Area is either wooded or agricultural land.

The Pinelands Comprehensive Management Plan designates three management areas for Vineland's Pinelands Area. These areas include Forest Area (2,480 acres, 72 percent of the city's Pinelands Area), a Rural Development Area (720 acres, 21 percent), and an Agricultural Production Area (260 acres, seven percent). The agricultural areas are located in the northern section of the city's Pinelands Area and are extensions of agricultural areas in Buena Vista Township. The Rural Development Area is centered on the Union-Mays Landing Roads intersection. The remaining lands are in the Forest Area.

Vineland City officials chose not to make any revisions in the designated management area lines and decided to incorporate Pinelands management programs without modification into the city's municipal land use ordinance. There were no substantive issues associated with the conformance process in Vineland.

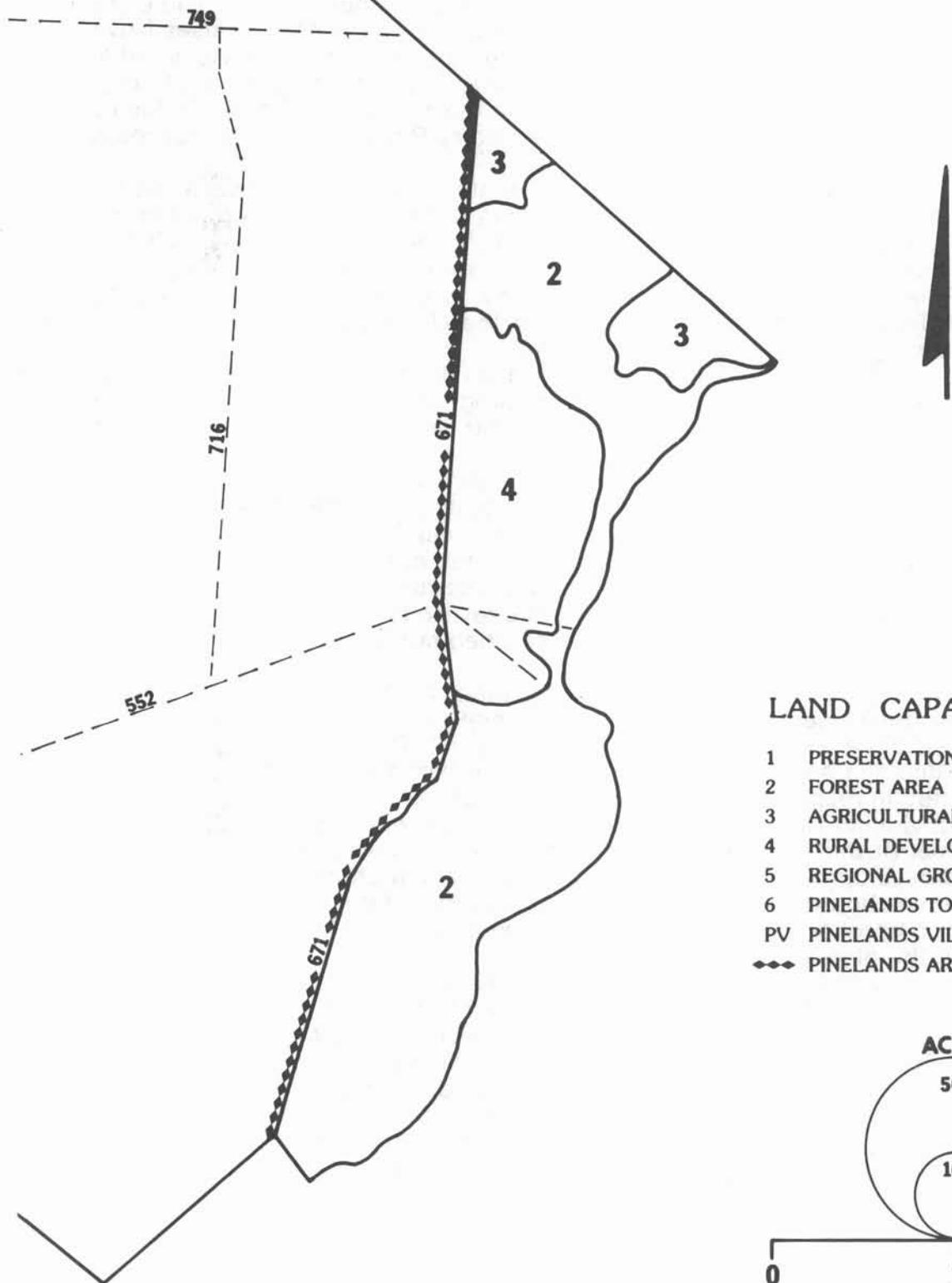
The city's major tasks in complying with the Comprehensive Management Plan involved the preparation of a natural resources inventory (NRI) for the city's Pinelands Area, amending the master plan, and incorporating Pinelands provisions in the municipal land use ordinance. The latter was an extremely complicated task given the format of the city's ordinance. The city's comprehensive development ordinance contains procedural items and design and environmental standards in various articles. The ordinance revisions proved very difficult and were the major reason for the city being conditionally certified rather than fully certified the first time around.

The conformance tasks were coordinated by the city's planner, a full-time employee working out of the engineering department. During the conformance period, the Commission staff provided technical assistance by preparing an NRI for Vineland's Pinelands Area, reviewing drafts of the revised ordinance, and preparing the master plan amendment which the planning board ultimately adopted in response to conditional certification.

On January 29, 1982 Vineland first applied for certification of the city's master plan and land development ordinance. At that time the city submitted for the Commission's review and action its revised land development ordinance and unrevised comprehensive plan summary (master plan). The planning board chairman also submitted a letter stating that the board saw no need to amend the comprehensive plan summary as "the provisions of the Pinelands have no practical impact on the plan as it now stands."

After reviewing and conducting a public hearing on the city's application for certification, the Commission concluded that additional revisions to the ordinance and master plan were necessary in order to make them fully consistent with the Comprehensive Management Plan. On April 30, 1982 the Commission conditionally certified the city's planning documents. The conditions included specific language for revisions to the land use ordinance, a Pinelands addendum to the master plan, and a natural resources inventory which was incorporated into the master plan. The city adopted the conditions with minor technical revisions. Vineland City's master plan and municipal land use ordinance were fully certified by the Pinelands Commission on September 10, 1982.

VINELAND CITY



Franklin Township

Franklin Township is located in southeastern Gloucester County, on the western fringe of the Pinelands Area. The township's total land area is 56.5 square miles, of which 20.4 square miles (35 percent) are located in the Pinelands Area. The Pinelands Area and Pinelands National Reserve boundaries are coincident in the township. Only Franklin's southeastern portion, where it borders Monroe Township (Gloucester County) and Buena Vista Township (Atlantic County), is within the Pinelands jurisdiction.

Franklin Township gained about 1,500 new residents during the 1960's, bringing the population to almost 9,000 in 1970. The township's population increased by almost 40 percent in the 1970's to its current count of 12,400. Most of the growth occurred outside the Pinelands Area near the developed corridor of Route 47 (Delsea Drive) and Franklinville. There are no sewerage facilities in the township, although the developed areas have been identified as possible sites for future sewer service. The Pinelands portion of the township is characterized by extensive upland and lowland forests, with agricultural fields interspersed throughout, especially in the southern section. There are several county roads which run through the Pinelands Area of the township, but for the most part the transportation network is underdeveloped. Development is primarily along the frontage of the roads, with very few subdivisions intruding into the forest or agricultural land.

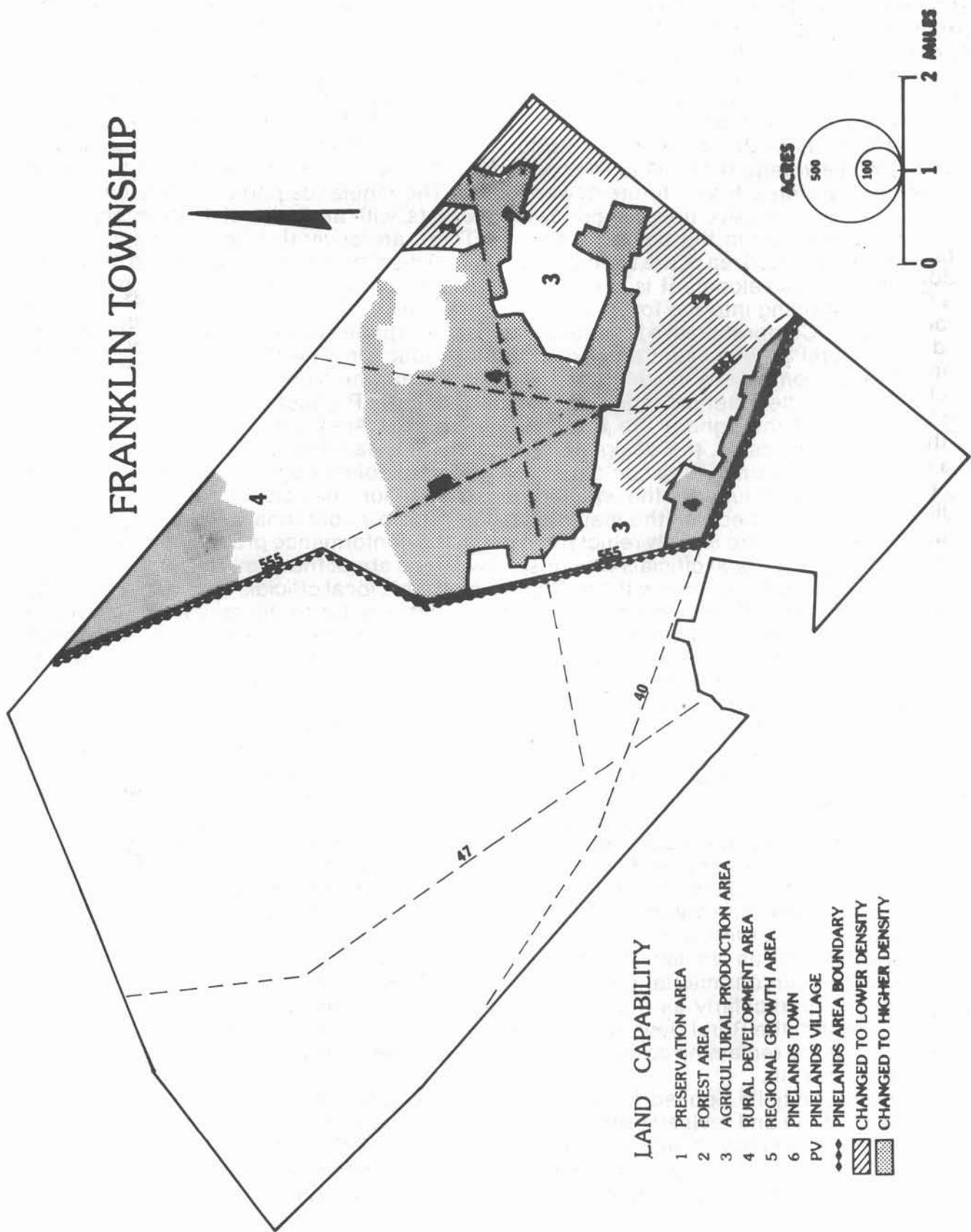
The Pinelands Comprehensive Management Plan designates two management areas in the township — Rural Development and Agricultural Production. The Rural Development Area (4,300 acres) encompasses much of the township's area which borders Monroe and Buena Vista Townships. The other management area, Agricultural Production, includes a little over 8,000 acres located throughout the township's Pinelands Area. Although active farms are prevalent in the township, the designated agricultural areas also contained wooded lands which were included since they contained soil types suitable for agriculture. Because large, wooded areas were included in the agricultural classification, the adjustment of management area boundaries thus became the major issue in Franklin's conformance process.

Township officials were initially reluctant to begin the conformance process, partly because of the costs involved. Local officials were also concerned about the Plan's possible impact on Franklin. After several meetings with the Commission staff, local officials began to realize that it would benefit the township to work with the Commission. Once the township accepted a planning assistance grant, several local officials worked very hard to see that local concerns were aired, and these officials held meetings with virtually all of the Pinelands property owners to solicit their opinions. Several revised management area maps were prepared, some of which were unacceptable to the Commission's Conformance Subcommittee because the proposals did not seem to meet the Commission's guidelines regarding agricultural areas. As a result of these discussions with the Commission and local residents, township officials proposed management area revisions which resulted in various areas being redesignated from Agricultural Production Area to Rural Development Area and vice versa. Although the proposal did not result in every active farm being included in an agricultural area, the Conformance Subcommittee accepted the proposal on the basis that the most significant concentrations of agricultural land were included, and the pattern of development anticipated under the proposed land use plan was similar to the existing pattern within the area.

With a land use plan map prepared, the next step was to develop specific recommendations for inclusion in the ordinances. The substandard lot provision, which the township had previously identified as an important issue, eased local concerns about the impact of Pinelands regulations on small landowners. Franklin officials also desired to retain its previous zoning districts, particularly as they related to commercial and industrial uses, and were pleased to find that the Rural Development designation permitted such flexibility. With these issues resolved, the remaining conformance documents were prepared with the assistance of the Commission staff.

The township initially applied for certification in August 1982 after adopting a revised master plan in June and revised ordinances in August. These documents were conditionally certified by the Pinelands Commission on September 10, 1982. At that time the Commission found that the master plan was consistent with the Pinelands Plan but that the ordinances needed minor technical amendments. These amendments required revisions to the pro-

cedural aspects of both the forestry and land use ordinances and additions to the water quality, wetlands, waste management, scenic, and energy conservation programs. The township quickly adopted the necessary amendments and was fully certified by the Pinelands Commission on November 5, 1982.



Monroe Township

Monroe Township is located in eastern Gloucester County, on the western side of the Pinelands Area. The township's total land area is 47 square miles, of which 31.5 square miles (67 percent) lie within the Pinelands Area. The boundaries of the Pinelands Area and Pinelands National Reserve are coincident in the township and encompass most of the township's land area which drains to the main stem of the Great Egg Harbor River.

Monroe Township has been a rapidly growing municipality through the past two decades, more than doubling in size during this period. The 1980 population stood at 21,639, up from 9,396 in 1960 and 14,071 in 1970. Development has principally radiated outwards from Williamstown and along the White Horse Pike. There are also several lake communities in Monroe, and most of the rural roads have experienced linear development along them. Agricultural lands predominate in the northwest corner of the township's Pinelands Area and in the adjacent area outside the Pinelands, with scattered agricultural lands, including old cranberry bogs, through much of the Pinelands. Monroe's Pinelands Area is laced with tributaries of the Great Egg Harbor River and has areas of lowland vegetation along the stream corridors as well as upland vegetation types.

The Pinelands Comprehensive Management Plan designates four management areas in Monroe Township. These are the Forest Area (3,700 acres) which encompasses the immediate area of the Great Egg Harbor River; the Agricultural Production Area (2,900 acres) bordering on Franklin Township in an area south of Williamstown and including the Hospitality Creek headwater; the Rural Development Area (8,700 acres) covering a large area southwest of the White Horse Pike and a smaller area along the Squankum Branch; and the Regional Growth Area (4,600 acres) radiating from Williamstown and extending south along the Pike.

The township embarked on the conformance process with some reluctance, as there were many questions that local officials had about the Pinelands Plan, as well as some misunderstandings about the differences between the moratorium and the Plan. The local officials were encouraged by the Commission's willingness to discuss management area adjustments, and the township prepared several revised maps. Since the draft Pinelands Plan was released, Monroe had been concerned about the Agricultural Production Area delineation and the difficulty with sewerage lake communities if they were in a Rural Development Area. These two issues were the focus of the map revisions. Township officials and the staff proposed a plan to extend sewerage to the lakes that would involve the redesignation of a portion of the Agricultural Production Area. After reviewing this proposal, the Conformance Subcommittee requested a reduction in the area committed to Regional Growth, and township officials eventually agreed, indicating they would have preferred a larger growth area to make sewerage more feasible. The other management area change was a switch to Forest Area from Rural Development Area in a section where Monroe felt development was inappropriate. The net results were increases in Forest and Regional Growth Areas, and decreases in Rural Development and Agricultural Production Areas.

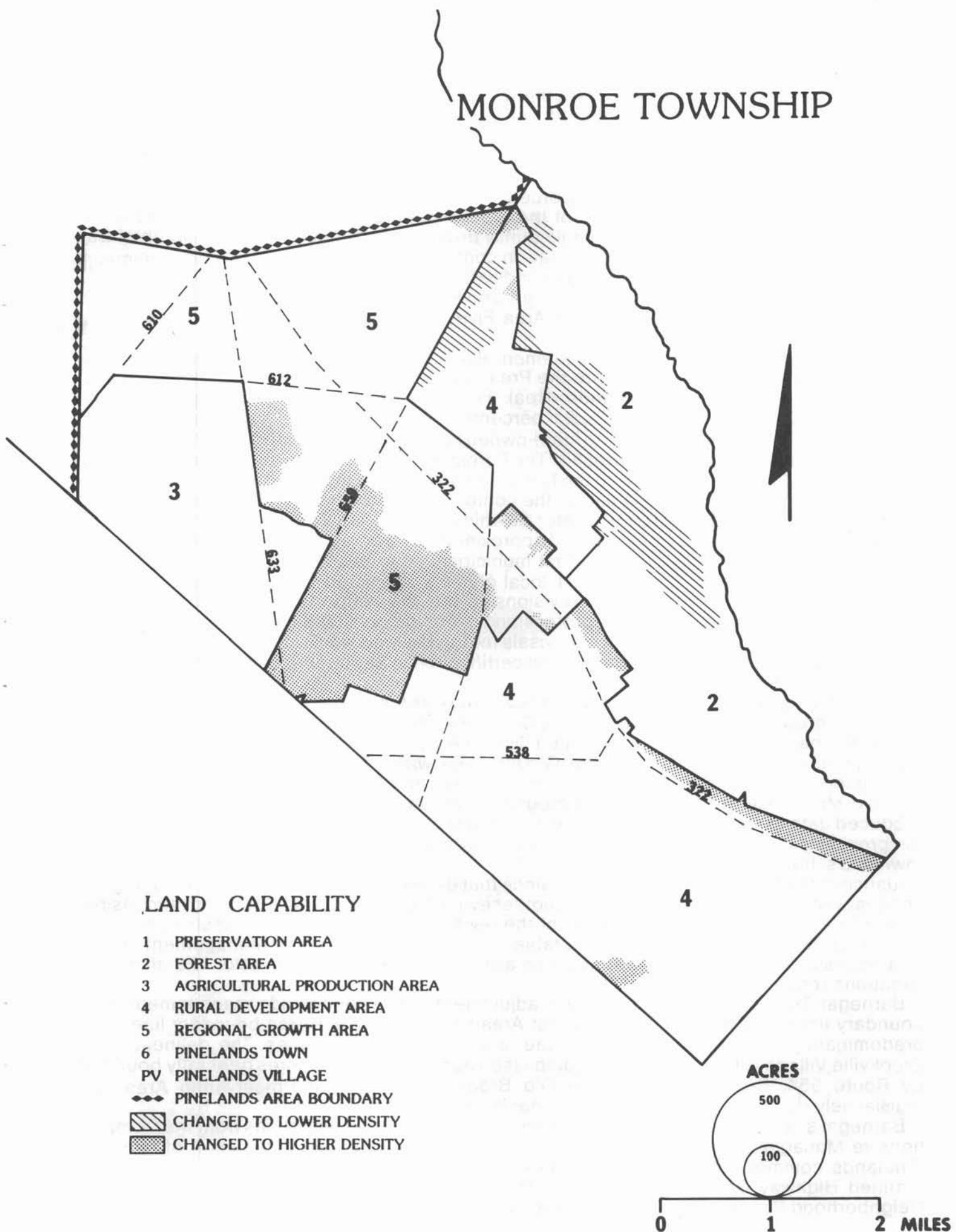
The remainder of the conformance issues were primarily related to the interpretation of Commission regulations at the local level. The township was very careful in reviewing the Pinelands Plan and had numerous questions for the Commission staff about the intent and implications of the Plan. The township sought to develop several innovative programs and proposed a unique clustering approach in the Rural Development Area and a method for accommodating senior citizen housing in the Regional Growth Area which the Commission accepted. A revised program for smaller agricultural lot sizes was not accepted since the net effect was to further promote residential development of active farmland.

The township planning board adopted a revised master plan in June 1982, and the mayor and council adopted a land development ordinance that September. The ordinance required a great deal of work, as the township was combining numerous ordinances into a unified land use ordinance. The township was conditionally certified by the Commission on December 3, 1982, with the only condition on the master plan relating to the agricultural lot size. The ordinance had conditions addressing review procedures, densities in two land management areas, the "grandfather" lot provision, and management programs relating to water quality, waste management, resource extraction, scenic resources, and stormwater.

The Gloucester County representative to the Commission and the Commission staff met with the township before the Commission's conditional certification, and two conditions were

deleted based on this meeting. After conditional certification several more meetings were held, and the township sought modifications to the scenic resources and stormwater programs that were accepted. The scenic corridor setback was reduced based on the development pattern along many of the rural roads, and the billboard removal provision was modified to exempt certain parts of the township. The stormwater management program was also modified to provide for the use of different design standards for smaller lot sizes. The township felt that the interpretation of the substandard lot provision in the condition was inaccurate and requested a Letter of Interpretation and other documentation that the condition was necessary. The township resubmitted its application for certification after adopting these conditions, and the Pinelands Commission fully certified Monroe Township's conformance documents at its September 9, 1983 meeting.

MONROE TOWNSHIP



Barnegat Township

Barnegat Township is located in southern Ocean County, in the eastern section of the Pinelands Area. The township's total land area is 34.9 square miles, of which 21.9 square miles (63 percent) lie within the Pinelands Area. All lands west of the Parkway in Barnegat Township are within the Pinelands Area. The entire township is within the Pinelands National Reserve.

Barnegat experienced its most rapid growth during the 1970's. From 1970 to 1980 the township population increased by 465 percent (1,539 in 1970 to 8,702 in 1980). Development in the township is concentrated east of the Parkway, the oldest settled areas being in the vicinity of Barnegat village. Newer single family developments have been built south of Bay Avenue between Route 9 and the Parkway. In contrast, the Pinelands Area is predominantly rural. The major residential areas are the Windward subdivision, just west of the Parkway, and the Pinewood and Brighton mobile home parks on Route 72. Resource extraction operations are a significant land use in the Pinelands Area. Five operations account for over 50 percent of the developed land in this area.

The Pinelands Comprehensive Management Plan designates three management areas for Barnegat's Pinelands Area. These are the Preservation Area (approximately 5,800 acres, 42 percent of the township's Pinelands Area), Forest Area (5,150 acres, 37 percent) and Regional Growth Area (2,960 acres, 21 percent). The Preservation Area encompasses all lands west of Route 539 as well as the state-owned Greenwood Forest and most of the Wading River drainage basin within the township. The Forest Area extends from the Preservation Area to the vicinity of Pancoast Road, and the Regional Growth Area includes all lands between the Forest Area and the Parkway. As part of the conformance process, the township designated a portion of Brookville Village, the center of which is in Ocean Township to the north. The Barnegat portion of Brookville consists of approximately 75 acres, formerly in the Forest Area.

Barnegat Township was one of the first municipalities to become actively involved in the conformance process. In January 1981 local officials contacted the Commission staff and expressed an interest in beginning revisions to the township master plan and land use ordinances. After contracting with a professional planning consultant a few months later, the township began to develop specific proposals for the Commission's consideration. Barnegat Township received conditional Commission certification in September 1982 and full certification on April 8, 1983.

One of the first issues raised in Barnegat Township was the planning board's objection to the amount of growth which they believed the Comprehensive Management Plan was forcing on their Regional Growth Area. This objection dissipated after local officials found that the CMP development target for this Regional Growth Area was identical to that which could be accommodated under the township's current zoning. Another issue related to the Comprehensive Management Plan's housing program. Township officials asserted, and ultimately produced data to show, that their existing housing stock satisfied the minimum requirements for providing for low, moderate, and middle income households. The submission of the township's housing analysis, however, coincided with the New Jersey Supreme Court's issuance of the Mount Laurel II decision. Since that decision affected the basis for judging the adequacy of a town's housing program, another evaluation of Barnegat's housing responsibilities will be necessary. In the first draft of the revised land use plan the township proposed commercial areas which were not acceptable under the Comprehensive Management Plan. It was necessary to eliminate some of these areas, although the Commission did allow two variations requested by the township.

Barnegat Township made fairly minor adjustments in the Pinelands management area boundary lines. Adjustments in the Forest Area-Regional Growth Area boundary line were predominantly a matter of reconciling the line to block and lot lines. The delineation of Brookville Village within Barnegat encompassed approximately 75 acres generally bounded by Route 554, Brookville Road, and Old Brookville Road. The Preservation Area was legislatively defined and therefore could not be adjusted.

Barnegat's certified master plan and ordinances contain a few variations from the Comprehensive Management Plan. One of these variations involved the continuation of two pre-Pinelands commercial zones in the Forest Area. These two zones are the Commercial-Planned Highway Development Zone at the intersection of Routes 72 and 554 and the Neighborhood Commercial Zone on Route 72 which is intended to service the mobile home

parks. Although these zones would not have been permitted under a strict application of Section 5-303 (Forest Area permitted uses), the Conformance Subcommittee supported the township's request as being within the flexibility provisions of the Plan. Another slight variation concerned the establishment of two Resource Industrial zones within the Forest Area. Because only non-residential uses were permitted in these zones, the township was able to reduce proportionately the residential lot sizes in the remainder of the Forest Area.

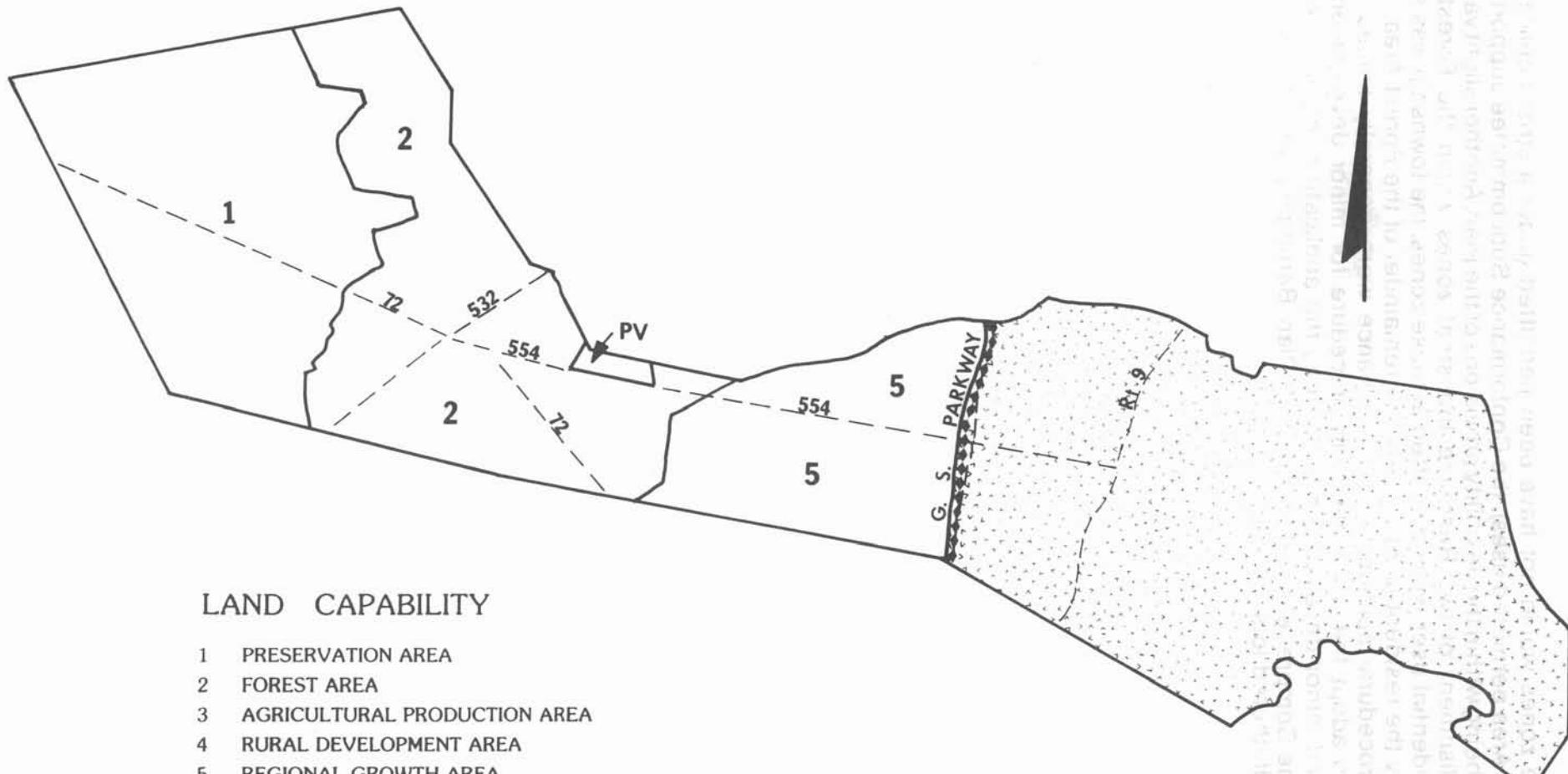
Variations in the procedural sections of the ordinance were generally limited to the township's decision to adopt the duplicate filing procedure for minor development. The definitions of major and minor development, as well as the application requirements, are identical to those in the Comprehensive Management Plan. Barnegat also chose to provide exemptions for "grandfathered lots."

APPENDIX A
LAND USE ZONING BY AREA

Area	Residential	Commercial	Industrial
RESIDENTIAL	✓	✓	✓
COMMERCIAL	✓	✓	✓
INDUSTRIAL	✓	✓	✓

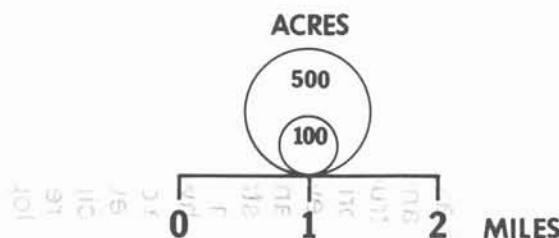
BARNEGAT TOWNSHIP

08-II



LAND CAPABILITY

- 1 PRESERVATION AREA
- 2 FOREST AREA
- 3 AGRICULTURAL PRODUCTION AREA
- 4 RURAL DEVELOPMENT AREA
- 5 REGIONAL GROWTH AREA
- 6 PINELANDS TOWN
- PV PINELANDS VILLAGE
- ◆◆◆ PINELANDS AREA BOUNDARY
- PINELANDS NATIONAL RESERVE ONLY



Beachwood Borough

Beachwood Borough is located in north-central Ocean County, in the northeastern section of the Pinelands Area. The borough's total land area is 2.8 square miles of which .7 square miles (25 percent) lie within the Pinelands Area. All land west of the Parkway in Beachwood is within the Pinelands Area. The borough's Pinelands Area and Pinelands National Reserve are coincident.

Beachwood has been growing fairly rapidly and steadily over the past 20 years. Between 1960 and 1970 the borough's population increased by 59 percent (2,765 in 1960 to 4,390 in 1970), while in the next 10 year period the increase was 75 percent (7,687 in 1980). All of this growth has occurred east of the Garden State Parkway and thus outside the Pinelands Area. Today, the non-Pinelands portion of the borough is almost totally developed. The Pinelands Area is predominantly wooded, undeveloped land. The majority of this land is borough-owned, the result of tax foreclosures over the years. Individual lots here are 2,000 square feet.

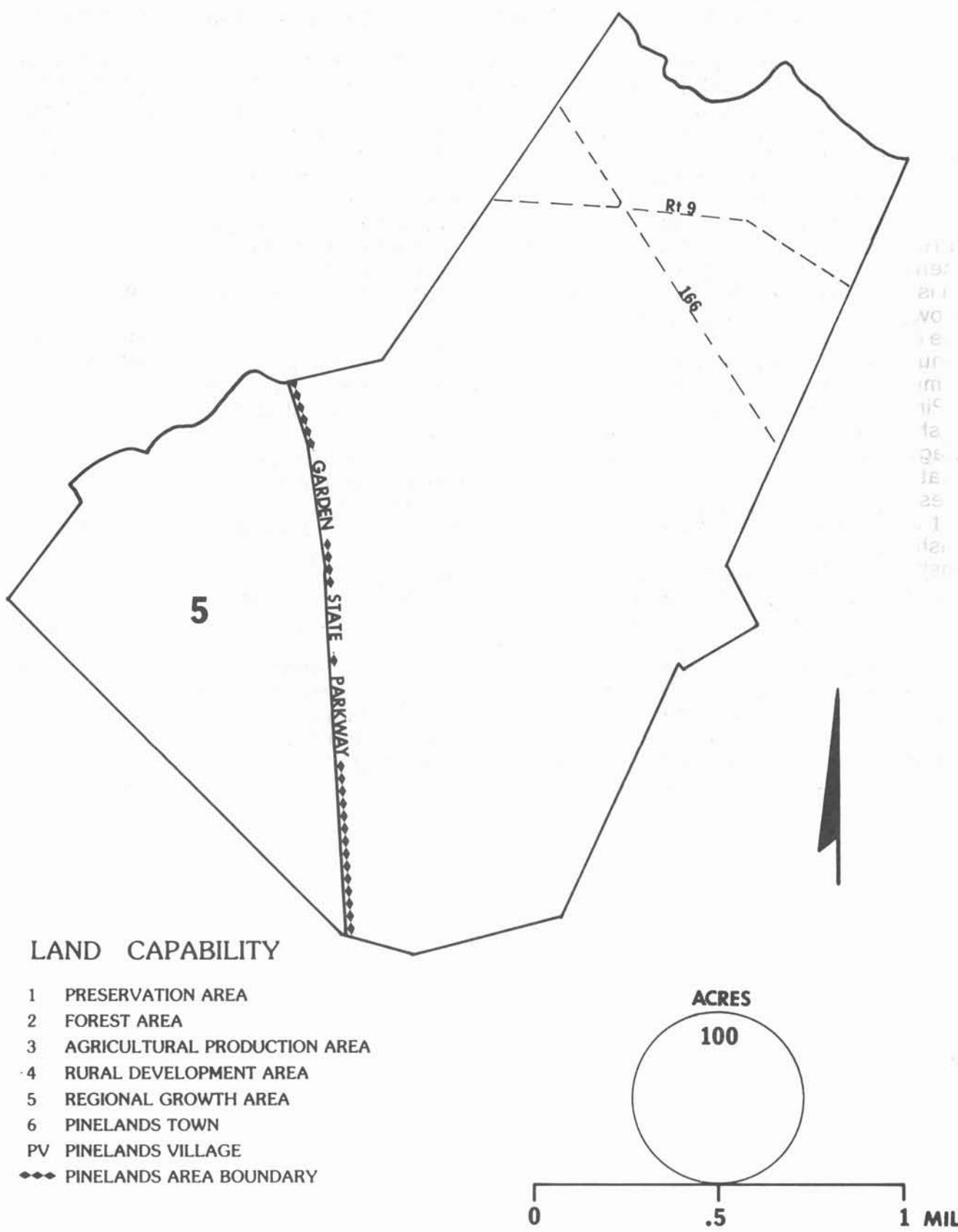
The Pinelands Comprehensive Management Plan designated Beachwood's entire Pinelands Area as a Regional Growth Area. The area abuts two heavily developed areas — Beachwood East and South Toms River Borough — and has the capability of being serviced by the recently constructed Jakes Branch Interceptor. The latter is part of the Ocean County Utility Authority's central service area facilities.

In revising its master plan and land use ordinance, the borough made no revisions in the Pinelands management area boundary lines. Similarly, the borough incorporated Pinelands Plan standards and procedures without variation. The borough received conditional certification in January 1983. After making technical revisions specified by the Commission, Beachwood Borough was fully certified on May 6, 1983.

The only real conformance issue in Beachwood related to the borough's desire to maximize the development potential of what was essentially municipally-owned land. In this respect, municipal officials performed a dual role as planners and real estate brokers. The objective for this area, once a sufficient block of land is consolidated in municipal ownership, is to offer it for development as a single unit by private interests, preferably as a planned retirement community. The Pinelands data maps showed substantial areas of wetlands, particularly pitch pine lowlands. Borough officials questioned the accuracy of these maps since the existence of wetlands would reduce the tract's development potential under the Pinelands Plan and make the land less attractive from a financial standpoint.

In an attempt to resolve the issue, the Commission staff further refined the soils and vegetation maps using additional mapping resources and site inspections. The result was that the borough ultimately accepted the revised maps. The borough's master plan and land use ordinance include much of these wetlands in a conservation category (Recreation/Open Space/Conservation-37 percent). The other land use categories are residential (RAA - 61 percent) and business (B-1-two percent).

BEACHWOOD BOROUGH



Eagleswood Township

Eagleswood Township is located in southern Ocean County, in the eastern section of the Pinelands Area. The township has a total land area of 16.5 square miles of which 3.8 square miles (23 percent) lie within the Pinelands Area. The Pinelands Area encompasses all lands in Eagleswood west of the Garden State Parkway. The entire township is within the federally designated Pinelands National Reserve.

Eagleswood Township has not experienced the rapid growth which typifies many Ocean County communities. The township is still predominantly undeveloped. Since 1960 the population has increased by less than 300 people (766 in 1960, 823 in 1970, and 1,009 in 1980). Most development in Eagleswood has occurred in the vicinity of the Route 9 corridor. With the exception of an old borrow pit and one or two single family homes, the township's Pinelands Area has remained virtually untouched. Nearly one-half of the land west of the Parkway is public land (Stafford Forge Fish and Wildlife Management Area).

The Comprehensive Management Plan designates Eagleswood Township's Pinelands Area as Preservation Area (1,126 acres, or 47 percent), and Forest Area (1,290 acres, or 53 percent). With the exception of approximately 50 acres of inholdings, all of the Preservation Area is state-owned. The Forest Area is all privately owned; most of this land is in large tracts and owned by corporations.

The conformance process began very slowly in Eagleswood and threatened to break down on a number of occasions. One of the first issues raised by Eagleswood officials concerned the Commission's authority in the portion of the Pinelands National Reserve which falls outside the Pinelands Area, i.e., all lands in Eagleswood east of the Garden State Parkway. The township objected to the Regional Growth Area designation which the Comprehensive Management Plan assigned to a portion of the township's Route 9 corridor, and local officials indicated they did not wish to comply with the CMP in the area east of the Parkway. Eagleswood also objected to the Pinelands Development Credit program, particularly as it might apply to the Regional Growth Area. After several letters and discussions between township officials and the Executive Director, this issue was temporarily resolved. The township agreed to conform its master plan and ordinances in the Pinelands Area; however, the question of the National Reserve continues to be mentioned in meetings with the township.

A second issue which took months to resolve involved the terms of the planning assistance grant. Prior to signing a contract, the township requested the Commission to hold funds in escrow until the township was prepared to begin revisions to its master plan and ordinances. Other points of discussions which were resolved prior to the execution of the contract dealt with the Commission's authority in the National Reserve, the township's responsibilities relative to the Regional Growth Area and PDC program, and the provision that the township might have to return grant monies if it failed to attain full certification. A revised version of the contract was eventually executed in February 1982.

Other concerns raised by the township prior to the initiation of revisions to its master plan were generally variations of these issues. A separate issue involved the question of access to the Forest Area. Only one road within the township provides access to lands west of the Parkway. Since this road runs through state fish and game lands, access to the Forest Area is limited and ultimately controlled by the State of New Jersey. Discussions between the Division of Fish, Game and Wildlife, the township, and the Commission were generally inconclusive in determining acceptable land use alternatives for the Forest Area. This issue predates the Pinelands planning process. In fact, the township's previous master plan, which accommodated substantially more growth than the Pinelands Plan, presented a significantly greater access problem.

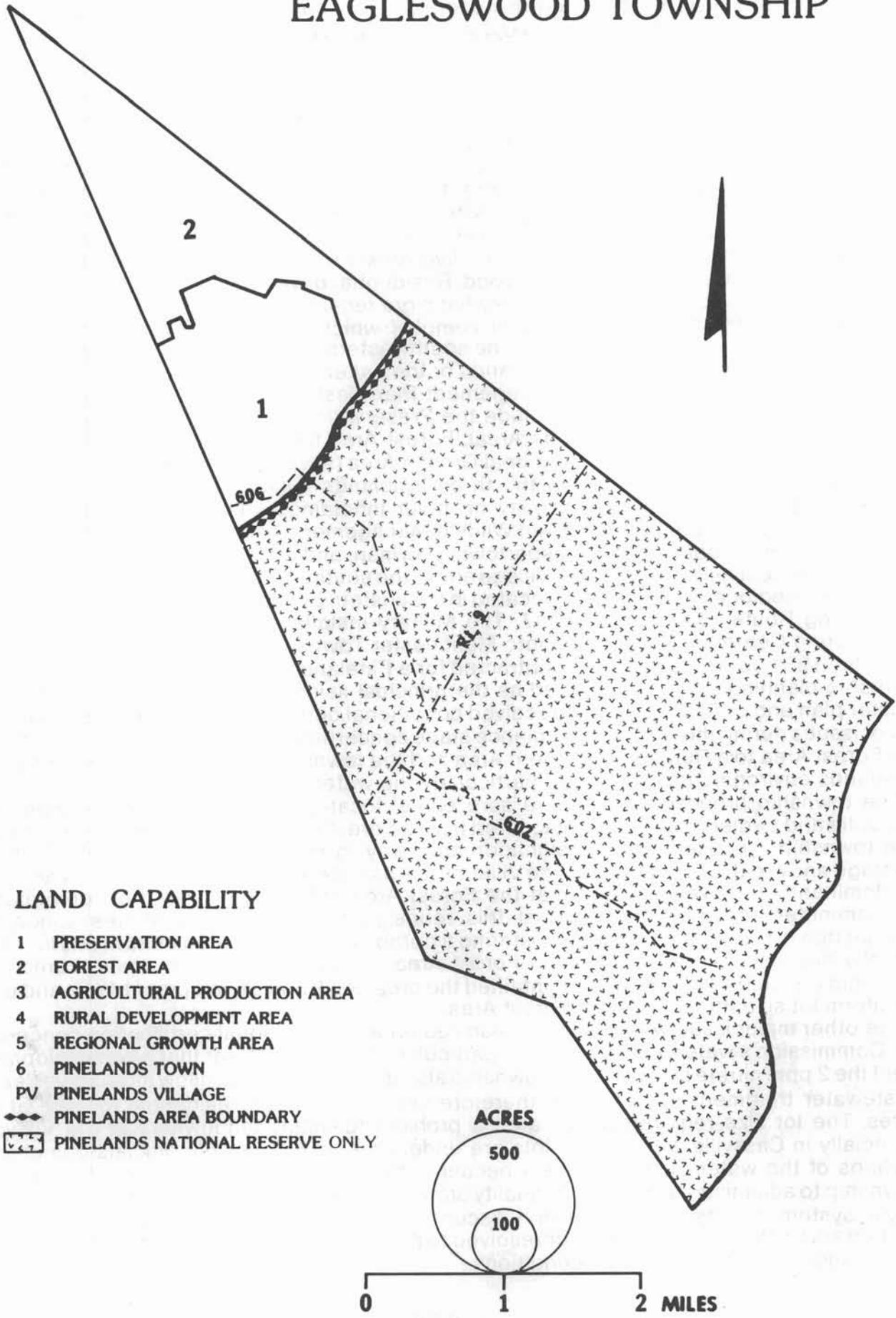
The land use plan and zoning map which the township submitted for Commission certification made no changes in the Pinelands management area designations. The procedural items and most of the Pinelands environmental standards were also incorporated with few modifications. The township did not choose to adopt the duplicate filing procedures for minor development applications, but instead maintained the Certificate of Filing requirement as a prerequisite to declaring all applications complete.

The major issues which resulted in the township's initial conditional certification and which

took several meetings to resolve concerned the Commission's water quality and Pinelands Development Credit programs. The township raised considerable objections to the 2ppm (parts per million) nitrate standard and other portions of the water quality program. Township officials stated that they did not want the responsibility of administering what they considered a state water quality standard, nor did they wish to enforce the provisions for monitoring on-site wastewater systems. The objections to the PDC provision appeared to be tied more to the township's objections to the acceptance of credits in the Reserve; however, the township was concerned with the possible loss of ratables if PDCs were sold from the Preservation Area.

On several occasions subsequent to the Commission's conditional certification of Eagleswood's master plan and land use ordinances (October 1982), Commission and township representatives discussed possible responses to these conditions. The Commission transmitted to the township alternative language for portions of the water quality program, among others, and also estimated that the Preservation Area would generate a maximum of 1 $\frac{3}{4}$ credits. The township ultimately decided to adopt verbatim the conditions set forth in the Commission's October 1982 resolution. Eagleswood Township received full Commission certification on April 8, 1983.

EAGLESWOOD TOWNSHIP



Jackson Township

Jackson Township is located in northwestern Ocean County, in the northern section of the Pinelands Area. Jackson has a total land area of 100.3 square miles, of which 47.8 square miles (48 percent) lie within the Pinelands Area. Approximately 35.8 square miles lie within the Pineland National Reserve. Jackson Township has the unusual distinction of having a portion of its National Reserve area outside the Pineland Ares and a portion of its Pinelands Area outside the Reserve. The Pinelands Area generally includes those lands lying south and west of Route 528 and northwest of Route 547.

Jackson Township is the fifth most populated Ocean County community. The township experienced its most rapid growth in the 1960's when the population tripled (5,939 in 1960 to 18,276 in 1970). Although the growth rate decreased in the 1970's and early 1980's, the township continues to be a center for new single family developments (1980 population — 25,644). Most of the township's residents live outside the Pinelands Area, particularly in the northeast sector adjacent to Lakewood. Residential development in the Pinelands Area has centered around Cassville and, somewhat more recently, the Legler area. VanHiseville is the location of the township municipal complex which includes the municipal building, police station, library, and two schools. The southwestern section of the township is in public ownership, either state fish and game lands or the Lakehurst Naval Air Engineering Center.

The Pinelands Comprehensive Management Plan designates six management areas for Jackson's Pinelands Area. These include the Preservation Area District (approximately 30 percent of the township's Pinelands Area), Forest Area (approximately 17 percent), Rural Development Area (25 percent), Regional Growth Area (seven percent), Military and Federal Installation Area (21 percent), and the three Pinelands Villages of Cassville, Legler, and VanHiseville. Except for the possibility of minor inholdings, the Preservation Area is all publicly owned (Colliers Mills Fish And Wildlife Management Area). The Forest Area includes the area generally bounded by Prospertown, Bowman, and Coventry Roads. Rural Development Areas occur near VanHiseville Village and in the southern portion of the township, east of Legler. The Regional Growth Area is located in the eastern portion of the township's Pinelands Area along Routes 527-528 and 547. The Military Installation Area (Lakehurst Naval Air Engineering Center) extends south into Manchester Township.

In May 1981 Jackson Township contracted for a Pinelands planning assistance grant. The township planning consultant served as the principal liaison during the preparation of the master plan and ordinances which received conditional certification in December 1982. The major issues during this initial conformance stage concerned the redesignation of a portion of the Forest Area to a Rural Development Area and the township's objection to portions of the Pinelands environmental standards, particularly the water quality program.

The township proposed that a 200 acre parcel located along Route 571 between the Cassville and Legler areas be redesignated from a Forest Area to a Rural Development Area. The township proposed the redesignation as a way to maximize the township's highway frontage and create a link between the Villages of Cassville and Legler. Because the area was predominantly undeveloped and met the Forest Area criteria, however, the Conformance Subcommittee recommended against this redesignation. The subcommittee suggested instead that the township consider clustering a portion of its Forest Area units in this location, thereby necessitating an increase in Forest Area lot sizes outside the desired area. The township rejected this approach, maintained the area as a Rural Development Area, and used a uniform lot size throughout the Forest Area.

The other major issue which was not resolved prior to conditional certification concerned the Commission's water quality program, particularly the requirement that new development meet the 2 ppm nitrate standard. The township also determined not to allow alternative design wastewater treatment systems and therefore set the minimum residential lot size at 3.2 acres. The lot size requirement created a problem for many landowners in the Villages, especially in Cassville where most lots are under one acre. Township officials objected to portions of the water quality program because they felt it was inappropriate for Jackson Township to administer a state water quality standard or assume responsibility in the event of septic system failures. Despite several discussions between township and Commission representatives, this issue remained unresolved to the satisfaction of the township and therefore was included in the certification conditions.

In addition to the above, the Commission did not approve the township's redesignation of approximately 800 acres near the Jackson-Manchester boundary from Rural Development Area to Regional Growth Area. The subcommittee suggested that the township consider a Municipal Reserve designation for this area and left this a matter open for discussion during the response period. This was not considered a major issue at the time.

Among the modifications which the Commission did approve were minor adjustments to the Forest Area and Rural Development Area boundaries, the addition of approximately 500 acres to the Regional Growth Area, and the Village boundaries for Cassville, VanHiseville, and Legler. Cassville extends farther south along Route 571 than a strict application of CMP Village guidelines would allow. However, this was accepted in response to the township's desire to maximize highway frontage. Legler Village also exceeds CMP guidelines, the deciding factor in delineating this Village being the capacity and alignment of the existing water supply system.

The Commission's December 1982 resolution directed Jackson Township to revise its master plan and zoning, subdivision, and site plan ordinances. In the course of doing so, the township modified certain items specified in the conditional certification and adopted verbatim other items. Among those items adopted verbatim were the water quality provisions. The township also agreed to allow one acre lots on alternative design systems in the Villages.

The major modifications which the township adopted related to Forest Area lot sizes and the Rural Development and Regional Growth Areas. A special committee consisting of the new mayor, another recently elected committeeman, the planning board chairman, the township clerk, and the planning consultant was responsible for proposing these modifications and coordinating the changes with other township officials and the Pinelands Commission. Commission representatives had an excellent working relationship with this committee. The township's proposed revisions were deemed consistent with the CMP, and the Commission fully certified Jackson Township on July 8, 1983.

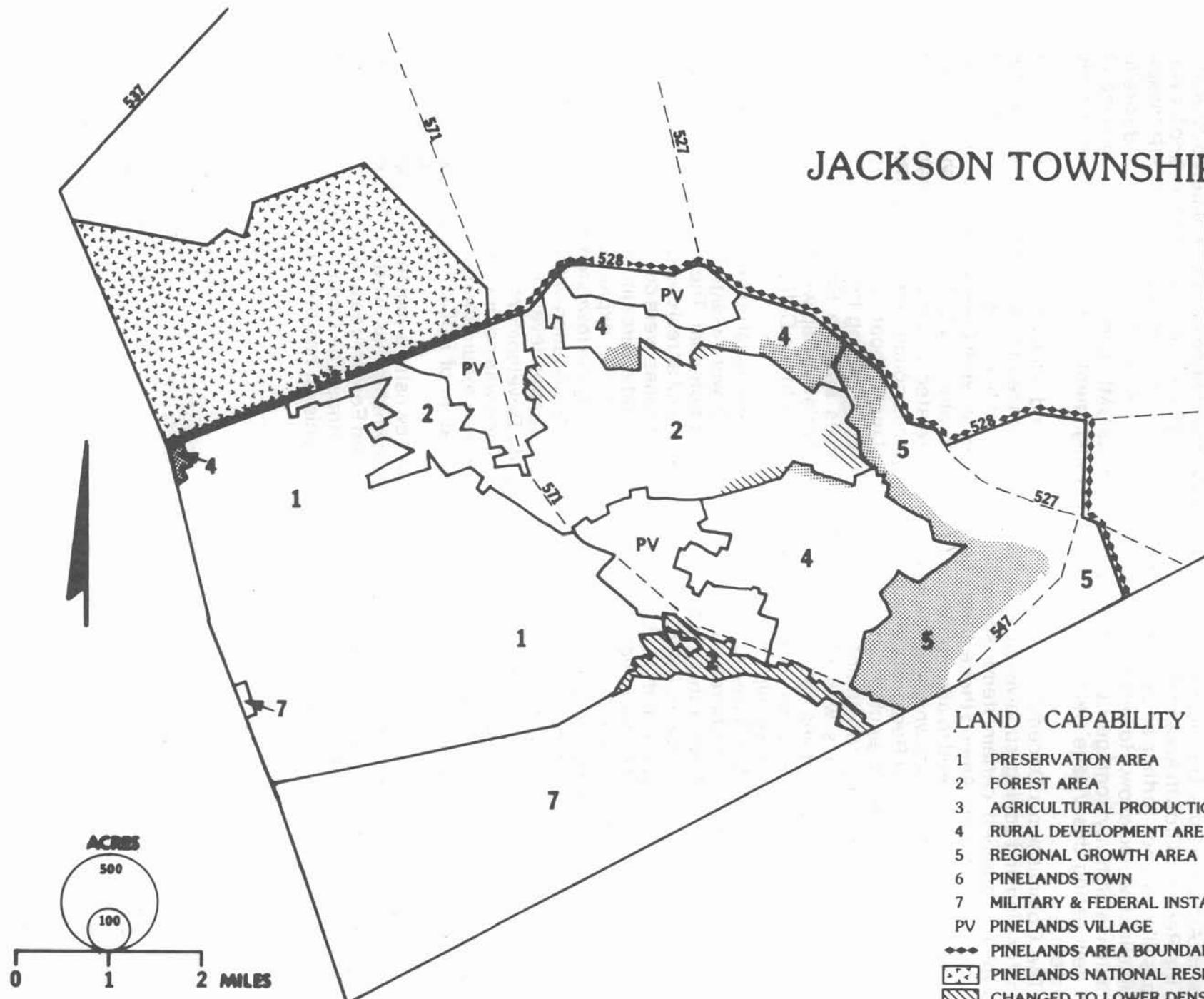
Revisions relating to the Forest Area involved changing the initial provisions for a uniform lot size there to an approach whereby the majority of the units were assigned to lands which the township considered having the greatest development potential. The revised zoning map shows three Forest Area zones, with the smallest lot sizes (3.2 acres) designated for the Route 571 area between Cassville and Legler. The two larger lot zones were delineated according to their respective suitability for development, i.e., access and environmental characteristics.

The other significant modification of the conditions was the expansion of the Regional Growth Area to include the 800 acres originally proposed by the township. The Conformance Subcommittee and township officials agreed on the redesignation with the understanding that the zoning for the Regional Growth Area would encourage development with sewers and provide additional incentives for the use of Pinelands Development Credits. An additional objective was to discourage larger lot development which was contrary to the objectives for Pinelands growth areas. The zoning provisions met these requirements. It should be noted that the township zoning provides for the accommodation of PDCs in excess of the CMP requirement.

The Pinelands Commission fully certified Jackson Township's master plan and land use ordinances on July 8, 1983. Since that date, the township has written the Commission requesting a "trade" between lands currently designated Forest Area and Rural Development Area, i.e., the zones would be reversed for the subject lands. The Commission has asked for additional information concerning this proposal. No decision has been made at this time.

JACKSON TOWNSHIP

II-88



LAND CAPABILITY

- 1 PRESERVATION AREA
- 2 FOREST AREA
- 3 AGRICULTURAL PRODUCTION AREA
- 4 RURAL DEVELOPMENT AREA
- 5 REGIONAL GROWTH AREA
- 6 PINELANDS TOWN
- 7 MILITARY & FEDERAL INSTALLATION AREA
- PV PINELANDS VILLAGE
- ◆◆◆ PINELANDS AREA BOUNDARY
- ▨▨▨ PINELANDS NATIONAL RESERVE ONLY
- ▨▨▨ CHANGED TO LOWER DENSITY
- ▨▨▨ CHANGED TO HIGHER DENSITY

Lakehurst Borough

Lakehurst Borough is located in north-central Ocean County, in the northern part of the Pinelands Area. The borough, which is totally surrounded by Manchester Township, has a land area of .95 square miles. Approximately .82 square miles (86 percent) lie within the Pinelands Area, with a slightly larger area (.92 square miles) in the federally designated Pinelands National Reserve. The Pinelands Area encompasses all lands in the borough west of the Central Railroad of New Jersey.

Lakehurst experienced most of its growth prior to 1960. During the past 20 years development activity has been limited since little vacant, developable land still exists. Between 1960 and 1970 the borough lost population (2,780 in 1960 and 2,641 in 1970). From 1970 to 1980 the population grew by about 10 percent (2,641 in 1970 to 2,908 in 1980). Today, Lakehurst is almost totally developed. The only significant tract of vacant land is in the northwest sector near the Manapauqua Brook. A portion of that area was the site of the now defunct sewage treatment plant. Other vacant lots are scattered throughout the borough.

The Comprehensive Management Plan designates Lakehurst as a Pinelands Town, with a small area in the northwest corner as a Military and Federal Installation Area. The latter area contains Pinehurst Estates, a federally owned multi-family housing development which provides housing for personnel assigned to the Lakehurst Naval Air Engineering Center. The borough incorporated these Pinelands designations into the Lakehurst master plan without modifications.

The Comprehensive Management Plan permits any use in a Pinelands Town which is compatible with the town's existing character. Because of this designation and the existence of public sewer and water, revisions relating to permitted uses and lot sizes were not necessary.

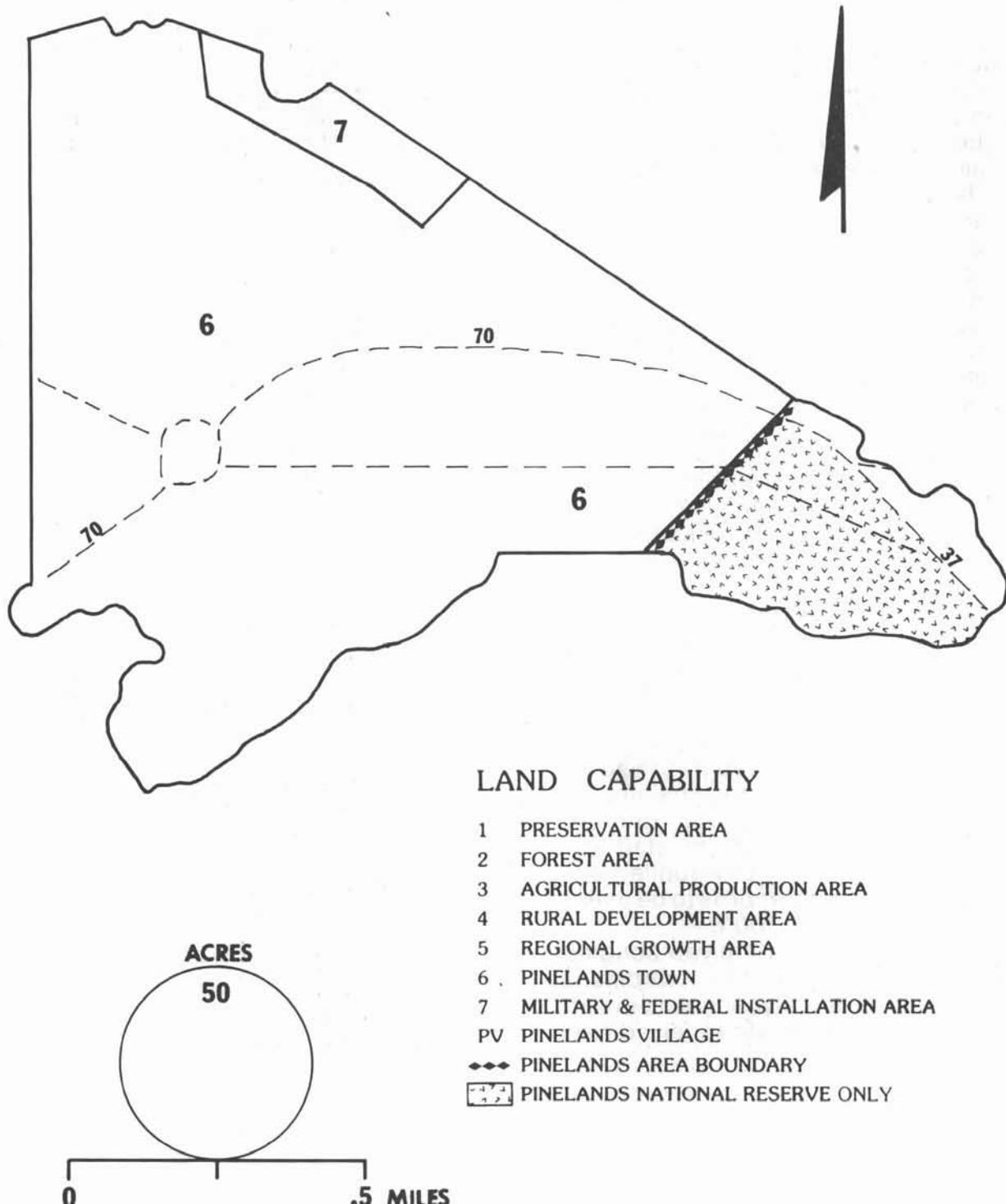
The few conformance-related issues which arose generally centered on the manner in which Pinelands procedural requirements and management programs should be incorporated in Lakehurst's Comprehensive Development Ordinance. The borough chose to integrate the Pinelands provisions throughout the ordinance rather than create a new article specifically for the Pinelands Area. The process of draft preparation and review became extremely time-consuming. One concern was to ensure that all the necessary Pinelands requirements were included without inadvertently affecting that small portion of the borough outside the Pinelands Area. While many of the items discussed were technicalities, their resolution often took several meetings. Since Lakehurst began its ordinance revisions sooner than many other communities, decisions made in that community would establish a precedent for other municipalities.

Because of the developed nature of Lakehurst and the fact that the borough is served by public sewer and water, there was a mutual interest in streamlining the review process and modifying environmental standards. At the Conformance Subcommittee's recommendations, borough officials did not require Certificates of Filing for any development. Instead, the "duplicate filing" method was adopted. It is anticipated that most new development in Lakehurst will fall into the minor development category.

Other variations adopted by the borough pertain to the Pinelands vegetation and wetlands program. Since most of the remaining vacant lots in Lakehurst are infill lots, strict application of the vegetation and wetlands programs did not appear warranted. After inspecting the existing vacant lots in the borough, the staff recommended and the subcommittee agreed that these programs would be strictly applied only in the borough's northwest corner. In most of the borough, native vegetation is to be used "to the extent practical", and the wetlands buffer is set at 100 ft. rather than 300 ft.

Lakehurst Borough received conditional Commission certification of its Master Plan and Comprehensive Development Ordinance in November 1982. The revisions specified in the conditions were largely technical in nature. After revising the documents in accordance with the conditions, Lakehurst received full certification on February 4, 1983.

LAKEHURST BOROUGH



Little Egg Harbor Township

The Township of Little Egg Harbor, the southernmost municipality in Ocean County, is located in the eastern portion of the Pinelands Area. The township has a total land area of 49.5 square miles of which 18.4 square miles (37 percent) lie within the Pinelands Area. All lands west of the Garden State Parkway, as well as lands east of the Parkway encompassed by the Bass River State Forest boundary, are within the Pinelands Area. The entire township is within the Pinelands National Reserve.

Little Egg Harbor has maintained a rapid growth rate over the past 20 years, approximately tripling its population in each ten year period (847 in 1960, 2,972 in 1970, and 8,483 in 1980). Two single family developments — Mystic Islands and Atlantis — accounted for much of this growth. With the exception of a few newer homes in the Warren Grove and Lakeshore Drive areas, development has occurred almost exclusively east of the Parkway.

The Comprehensive Management Plan designates two management areas for Little Egg Harbor's Pinelands Area. These are the Preservation Area (10,272 acres, 87 percent of the township's Pinelands Area) and Forest Area (1,510 acres, 13 percent). Approximately 35 percent of the Preservation Area is publicly owned. As delineated by the township during the conformance process, a portion of the Pinelands Village of Warren Grove also extends into Little Egg Harbor. The Village boundary takes in approximately 88 acres which were formerly designated as Preservation Area.

The township made few changes in the Pinelands management area lines. The Preservation Area-Forest Area boundary line was essentially fixed since the former is legislatively defined. The one change in the Preservation Area involved the delineation of Warren Grove Village. Since the area included in the Village is predominantly developed, a maximum of 12 additional units is anticipated in Little Egg Harbor's portion of the Village.

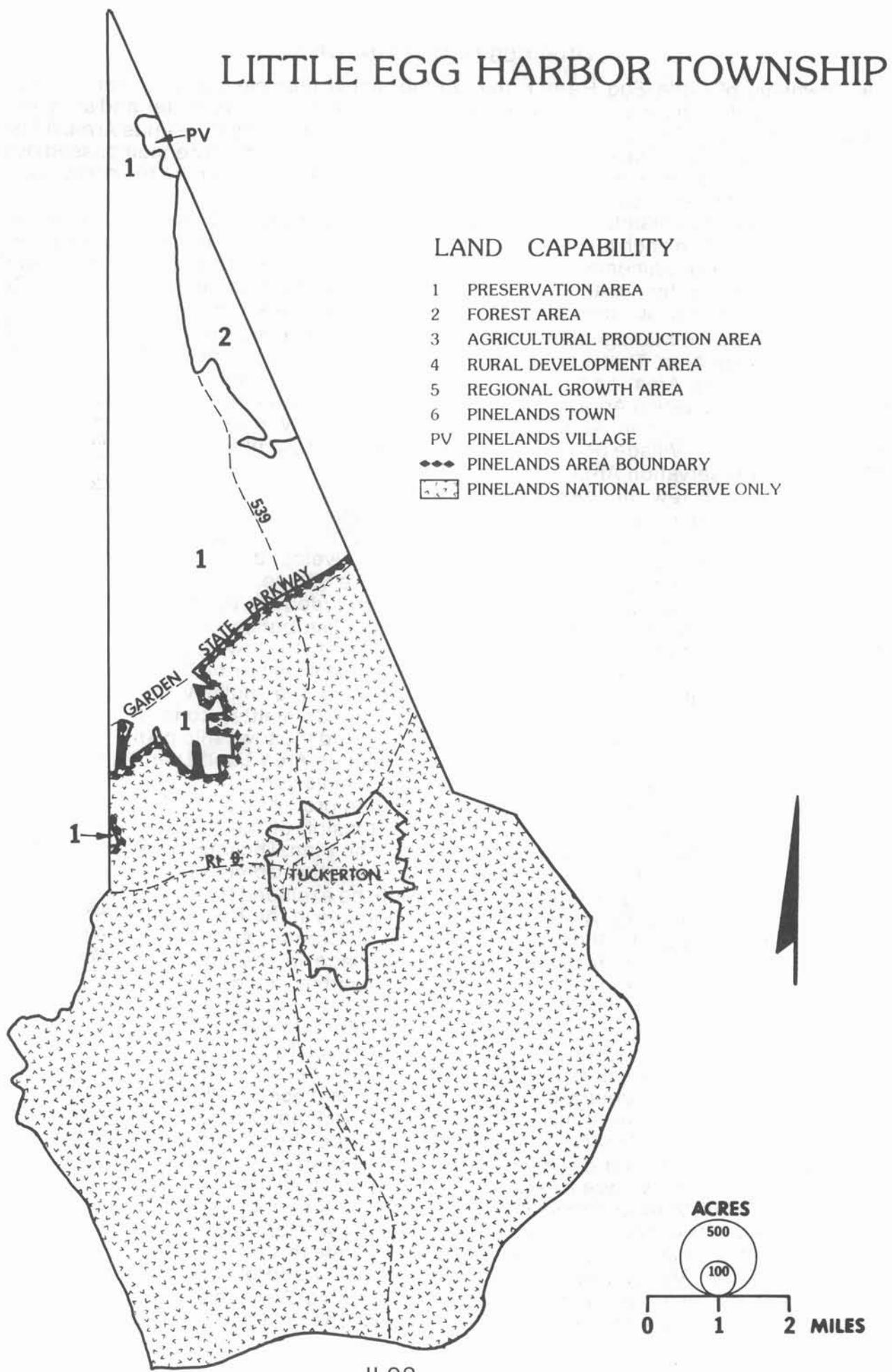
The major conformance tasks in Little Egg Harbor included the updating of the township's natural resource inventory, delineation of the Village, distribution of Forest Area units, the preparation of a Pinelands Area master plan, and revisions to the township's land development ordinance. The planning board's consultant, with the assistance of the Commission staff, prepared the natural resource inventory revisions and the initial Village proposal. The township later formed a special Pinelands Conformance Committee consisting of the mayor, another member of the township committee, a citizen, and the township planning consultant. This group assumed the lead in preparing the Pinelands Area Land Use Plan and gaining acceptance of the proposals by the township and Commission.

One issue which arose during the Village delineation process concerned the committee's desire to include an area which, while a logical extension of the Village from a locational standpoint, did not appear to be developable under the Plan. The lots in this tract contained large areas of wetlands soils and a plant species on the Commission's threatened and endangered list. The staff recommended that the lots be excluded from the Village. Assuming that the lots could not be developed, maintaining the lots in the Preservation Area would at least entitle the owners to Pinelands Development Credits. After much discussion, the committee decided to include these lots in the Village in the hope that they might be developable. If this proved not to be the case, the committee would consider revising the land use plan.

Several problems were involved in developing the Forest Area plan. Little Egg's Harbor's Forest Area has poor road access. Many of the areas which have direct access to Route 539 are either wetlands or associated with the East Plains. The committee determined that the best approach was to concentrate Forest Area units as close as possible to Warren Grove Village, thereby making use of the existing road network and fire protection facilities. The Forest Area plan provides for 60 percent of the units to be clustered near the Village with the rest distributed throughout the remainder of the Forest Area on 35 acre lots.

Clustering close to the Village was seen as a way to limit the impact on the East Plains which lies to the south of Warren Grove Village. To further encourage clustering, the township proposed to allow developers to build on one acre lots with conventional septic systems as long as an overall lot size of 3.2 acres is maintained. While this is a deviation from Article 5 of the Comprehensive Management Plan, the Commission approved this variation as being consistent with the objectives for this area. Little Egg Harbor Township's master plan and land development ordinance were certified without conditions on January 7, 1983.

LITTLE EGG HARBOR TOWNSHIP



Ocean Township

Ocean Township is located in central Ocean County, in the eastern part of the Pinelands Area. The township has a total land area of 20.6 square miles of which 11.7 square miles (57 percent) lie within the Pinelands Area. All lands west of the Parkway in Ocean Township are within the Pinelands Area. The entire township is within the federally-designated Pinelands National Reserve.

Ocean Township had a substantial growth rate in the past 20 years, approximately doubling its population in each of the past two decades. The population was 921 in 1960, 2,222 in 1970, and 3,731 in 1980. Nevertheless, the township is still a predominantly rural community. Most development in the township is concentrated east of the Parkway, particularly along the Route 9 corridor in Waretown and along the bay front. Development in the Pinelands is largely limited to the Brookville area.

The Pinelands Comprehensive Management Plan designates three management areas for Ocean Township's Pinelands Area. These are the Preservation Area District (approximately 38 acres, less than one percent of the township's Pinelands Area), Forest Area (approximately 4,900 acres, 60 percent), Rural Development Area (approximately 3,200 acres, 40 percent), and the Pinelands Village of Brookville. The latter is within the Forest Area, and its boundaries were delineated by the township as part of the conformance process.

Ocean officials chose to revise the master plan for the entire township, thereby including all lands east of the Garden State Parkway which were outside the Pinelands Area but within the National Reserve.

The Comprehensive Management Plan designations for the entire township and their respective percentages are: Preservation Area, less than one percent; Forest Area, 40 percent; Rural Development Area, 33 percent; and Regional Growth Area, 27 percent. The master plan which the township adopted in March 1982 reflected those designations with one exception. Only slight adjustments were made in the boundaries.

The entire conformance process generally went very smoothly. The township's special planning consultant (a subcontractor working with the township engineer) prepared the proposed maps which were discussed at planning board meetings with the staff, then presented by the staff to the Conformance Subcommittee. The Forest-Rural Development Area boundary was adjusted largely to block and lot lines while the Village boundary fell within the guidelines of the Comprehensive Management Plan. The result was that the master plan which the township adopted in March 1982, with one exception, reflected only slight adjustments in Pinelands management area lines.

The major conformance issue in Ocean Township was the land use designation for Southern Ocean County Landfill. Although the CMP placed the landfill in a Rural Development Area, the township wished to include the landfill in the Forest Area. Such a designation would greatly restrict the landfill's size and continued operation. The Conformance Subcommittee advised the township that this redesignation would not be acceptable since it did not meet the classification guidelines of the CMP. Several meetings and discussions were held to resolve this issue. Ocean County officials submitted testimony indicating that the township's proposal was inconsistent with the county's DEP-approved solid waste management plan. The township maintained its position that the landfill should be included in the Forest Area. The master plan and land use ordinances which the township submitted for certification in May 1982 reflected that position.

The Pinelands Commission conditionally certified Ocean Township's master plan and land use ordinances in July 1982. While the Commission's resolution specified a number of revisions which were necessary to make the land use documents fully consistent with the Comprehensive Management Plan, the major reason for the conditional certification was the landfill designation. Subsequent to receiving notice of the Commission's action, the township requested a meeting with the Commission staff to discuss the conditions. The township was advised that the Forest Area designation for the landfill was inconsistent with the land allocation criteria contained in the Comprehensive Management Plan. In fact, the landfill was a major reason for designating the township's Oyster Creek basin a Rural Development Area. Including the landfill in a Forest Area was therefore inconsistent with the land allocation process, the objectives for the Forest Area, and the county's solid waste management plan. The township ultimately voted to adopt the conditions specified in the Commission's order with minor modifications.

Ocean Township's master plan and land use ordinance contain few variations from the Comprehensive Management Plan. The township created one I-2 Resource Industrial Zone in the Pinelands Area which allowed it to slightly reduce the overall residential lot sizes in the FO (Forest Area) Zone. Only non-residential uses are permitted in the I-2 Zone. The zoning specifies a uniform lot size for the FO and RU Zones, although the clustering of 10 or more lots is permitted. The township incorporated the duplicate filing procedure for minor development applications. The zoning ordinance allows Pinelands Development Credits to be used in the Reserve, i.e., in the R-2 Zone which is the largest residential zone east of the Parkway. Ocean Township also provides for "grandfathered lot" exemptions. Ocean Township received full certification of its master plan and land use ordinances on January 7, 1983.

OCEAN TOWNSHIP



Plumsted Township

Plumsted Township is located in northwest Ocean County, in the northern part of the Pinelands Area. The township has a total land area of 40.7 square miles of which 20.9 square miles (51 percent) lie within the Pinelands Area. The Pinelands Area includes all lands in the township east of Route 539 and south of Route 528. Eighty-eight percent of Plumsted's Pinelands Area is within the Fort Dix Military Reservation. An additional 0.6 square miles (approximately 370 acres) lie within the Pinelands National Reserve but outside the state Pinelands Area.

In 1980 Plumsted Township had a population of 4,674, a 14 percent increase over its 1970 population of 4,113. The township is still predominantly rural. Most development is concentrated around New Egypt and along county highways. Residential development is mostly limited to the perimeter of the Pinelands Area along Routes 539, 528, and 640 and on Woodruff and Holmes Roads. The New Egypt Speedway is located on the east side of Route 539.

The Pinelands Comprehensive Management Plan designates four management areas for Plumsted's Pinelands Area. From largest to smallest, these include the Military and Federal Installation Area (88 percent of the township's Pinelands Area), Forest Area (seven percent), Rural Development Area (three percent), and Preservation Area District (two percent). The Preservation Area is all publicly-owned (Colliers Mills Fish and Wildlife Management Area and Lebanon State Forest).

Conformance issues in Plumsted related to the land use plan and Pinelands environmental standards. Issues related to the land use plan were resolved prior to the township's original submission of its revised master plan and ordinances. Issues related to Plan environmental standards took a significantly longer time to resolve and were a major item in the Commission's conditional certification.

During the winter of 1981-1982 the township proposed modifications to Pinelands management areas. The township's proposed land use plan showed expansions of the Rural Development Areas along Routes 528 and 539 and the creation of a new Rural Development Area on Route 528 adjacent to Jackson Township. The intent of the expansion was to maximize the township's highway frontage and, even more importantly, to promote compatible development patterns along the major roadways. (The north and west sides of Routes 528 and 539, respectively, are not in the Pinelands Area and were zoned at that time for one acre lots.) The revision resulted in the addition of 52 potential housing units in Plumsted's Pinelands Area. In accordance with the flexibility provisions of the Comprehensive Management Plan, the Conformance Subcommittee agreed to the township's request. At the subcommittee's suggestion, the township limited the expansion area to residential uses to avoid strip commercial development.

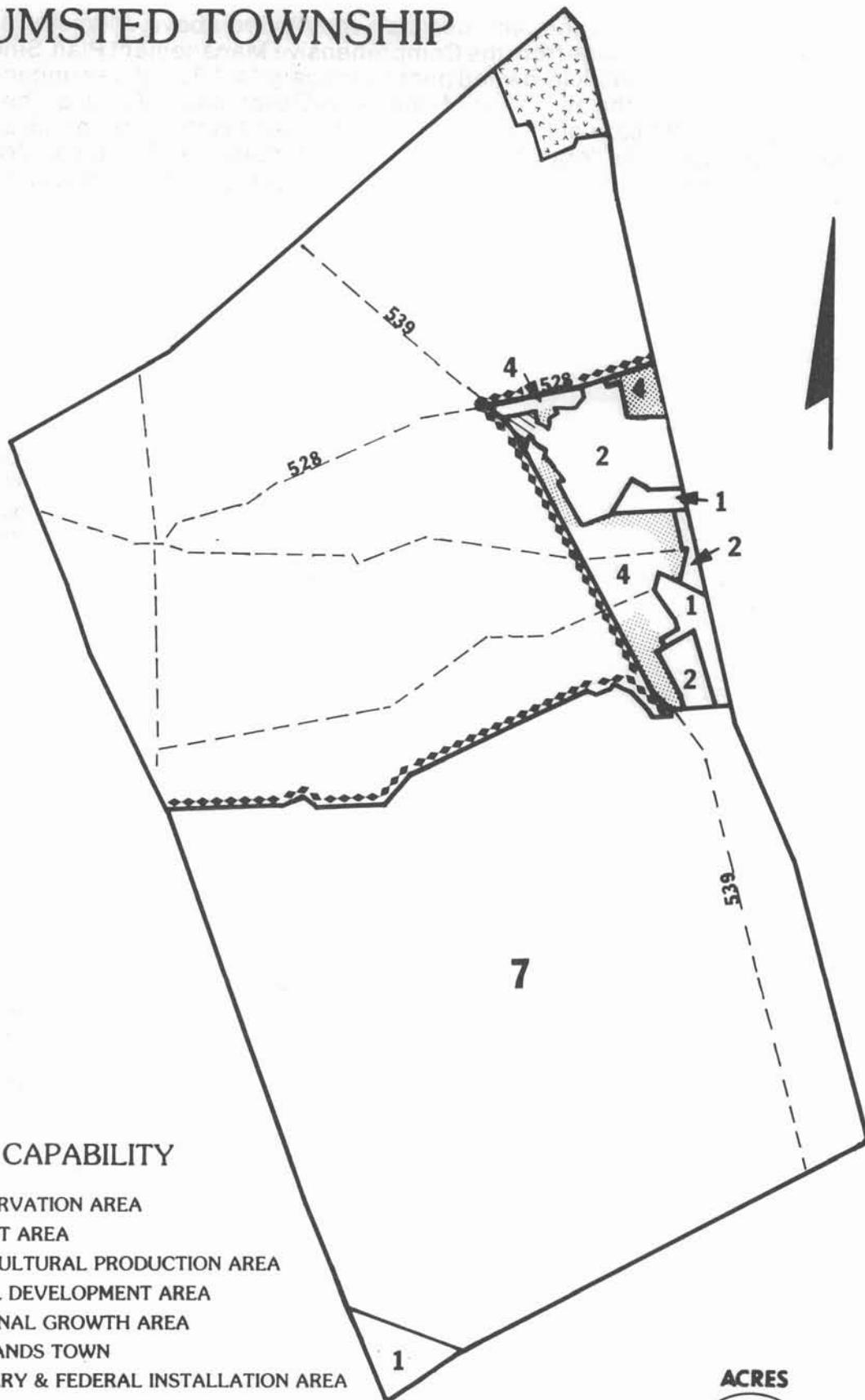
The issue relating to Pinelands environmental standards was not so easily resolved. In the course of commenting on the township's draft ordinances, the Commission staff indicated that excluding and revising certain standards would be inconsistent with the Comprehensive Management Plan. The township objected in particular to the water quality program, especially the 2 ppm nitrate standard and the provisions for the maintenance of on-site waste water management systems. The provisions were therefore omitted. The ordinances also contained revisions to the vegetation program which were unacceptable under the Comprehensive Management Plan.

The exclusion of portions of the water quality program was a major factor in the Commission's October 1982 decision to conditionally certify the township's plan and ordinances. While numerous other revisions were necessary to make the township's land use documents fully consistent with the CMP, the water quality program was a prominent issue and took some time to resolve.

Subsequent to the Commission's action, township and Commission representatives had several discussions regarding the conditions. The township again raised objections to portions of the water quality program, stating that they did not wish to administer state water quality standards nor bear any responsibility in the event of a septic system failure. Township officials also considered modifying the language of the development review procedures. However, the township ultimately decided to adopt the conditions verbatim.

Aside from the adjustments in the land use plan mentioned above, Plumsted's planning documents contain a few variations from the Comprehensive Management Plan. Since all land in the Preservation Area was publicly owned prior to January 14, 1981, it was unnecessary for the ordinances to provide for the allocation of Pinelands Development Credits. The township chose to maintain the Certificate of Filing requirement for all development applications. The zoning ordinance also provides "grandfathered lot" exemptions. The Pinelands Commission fully certified Plumsted Township's master plan and land use ordinances on July 8, 1983.

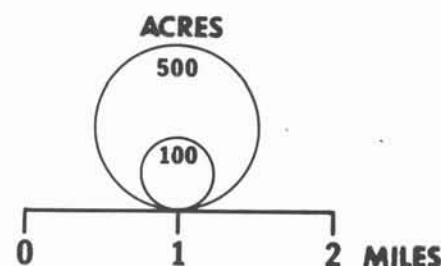
PLUMSTED TOWNSHIP



LAND CAPABILITY

- 1 PRESERVATION AREA
- 2 FOREST AREA
- 3 AGRICULTURAL PRODUCTION AREA
- 4 RURAL DEVELOPMENT AREA
- 5 REGIONAL GROWTH AREA
- 6 PINELANDS TOWN
- 7 MILITARY & FEDERAL INSTALLATION AREA
- PV PINELANDS VILLAGE
- ◆◆◆ PINELANDS AREA BOUNDARY
- ▨▨▨ PINELANDS NATIONAL RESERVE ONLY
- ▨▨▨ CHANGED TO LOWER DENSITY
- ▨▨▨ CHANGED TO HIGHER DENSITY

II-98



Stafford Township

Stafford Township is located in southern Ocean County, in the eastern part of the Pinelands Area. The township's total land area is 47.05 square miles of which 20.7 square miles (44 percent) lie within the Pinelands Area. All lands west of the Parkway in Stafford Township are within the Pinelands Area. The entire township is within the federally-designated Pinelands National Reserve.

Stafford experienced a rapid growth rate over the past two decades, nearly doubling its population from 1960 to 1970 (1,930 to 3,684) and tripling it between 1970 and 1980 (3,684 to 10,385). Most of the development in Stafford Township has occurred east of the Parkway, outside the Pinelands Area. Exceptions to this development pattern are two large developments located west of the Parkway and north of Route 72, Fawn Lakes and Ocean Acres. These two developments account for almost all of the residential growth which has occurred within Stafford's Pinelands Area over the past 20 years. The only other development concentration west of the Parkway is in the vicinity of Warren Grove.

The Pinelands Comprehensive Management Plan designates four management areas for Stafford's Pinelands Area. These are the Preservation Area (750 acres, six percent of the township's Pinelands Area), Forest Area (10,010 acres, 75 percent), Regional Growth Area (2,520 acres, 19 percent), and the Pinelands Village of Warren Grove. The Preservation Area encompasses all lands west of Route 539. Of the Preservation Area's 750 acres, 185 are publicly-owned (Warren Grove Recreation Area). The Forest Area generally includes all lands east of Route 539 and south of Route 72, except for 95 acres of Regional Growth Area in the vicinity of Recovery Road. The Regional Growth Area includes the Fawn Lakes and Ocean Acres developments as well as the Recovery Road industrial area. Warren Grove Village was delineated by the township during conformance and now encompasses lands formerly in the Forest and Preservation Areas. Management areas east of the Parkway include a Regional Growth Area (the predominant classification for the area between Route 9 and the Parkway as well as along Route 72 out to Long Beach Island), a Rural Development Area (west of Route 9 in the vicinity of Cedar Run and Mayetta), and a Forest Area (all lands east of Route 9 except for the causeway area).

Stafford Township made relatively minor adjustments to the Pinelands management area lines during the conformance process. Warren Grove Village was delineated in accordance with Comprehensive Management Plan guidelines. The Village consists of 210 acres; 160 acres had been Forest Area and 50 acres had been Preservation Area. Modifications to the management area lines included the expansion of the Regional Growth Area in the vicinity of Recovery Road to encompass an existing industrial zone and township, county, and state-owned sites. A new Rural Development Area/Special Business Zone was designated from lands previously in a Forest Area. This zone was designated to provide opportunities for professional office and commercial development along Route 72 on lands adjacent to the Regional Growth Area. The Conformance Subcommittee recommended both these changes to the Commission as being within the flexibility provisions of the Plan. The result of the various adjustments is that 50 acres of Preservation Area and 580 acres of Forest Area were changed to a more intensive land use category.

The conformance process in Stafford was generally productive, and a cooperative working relationship emerged between township and Commission representatives. The Conformance Subcommittee responded quickly and usually favorably to proposals made by the township, such as the expansions noted above. The Commission staff provided technical assistance to the township during the preparation of the township's natural resource inventory and revised development ordinance. Unfortunately, a few conformance issues arose which proved very difficult to resolve.

Stafford Township received conditional certification of its master plan and development ordinance in October 1982 (Resolution No. 82-73). The conditions required revisions to the master plan, specifically the addition of language on the Pinelands Development Credit Program; revisions in the capital improvements section on sewers; revisions to the development ordinance including increases in certain lot sizes; clarification of permitted uses in certain zones; the addition and/or revision of Pinelands management programs; and procedural items relative to development review. During the spring of 1983 the township

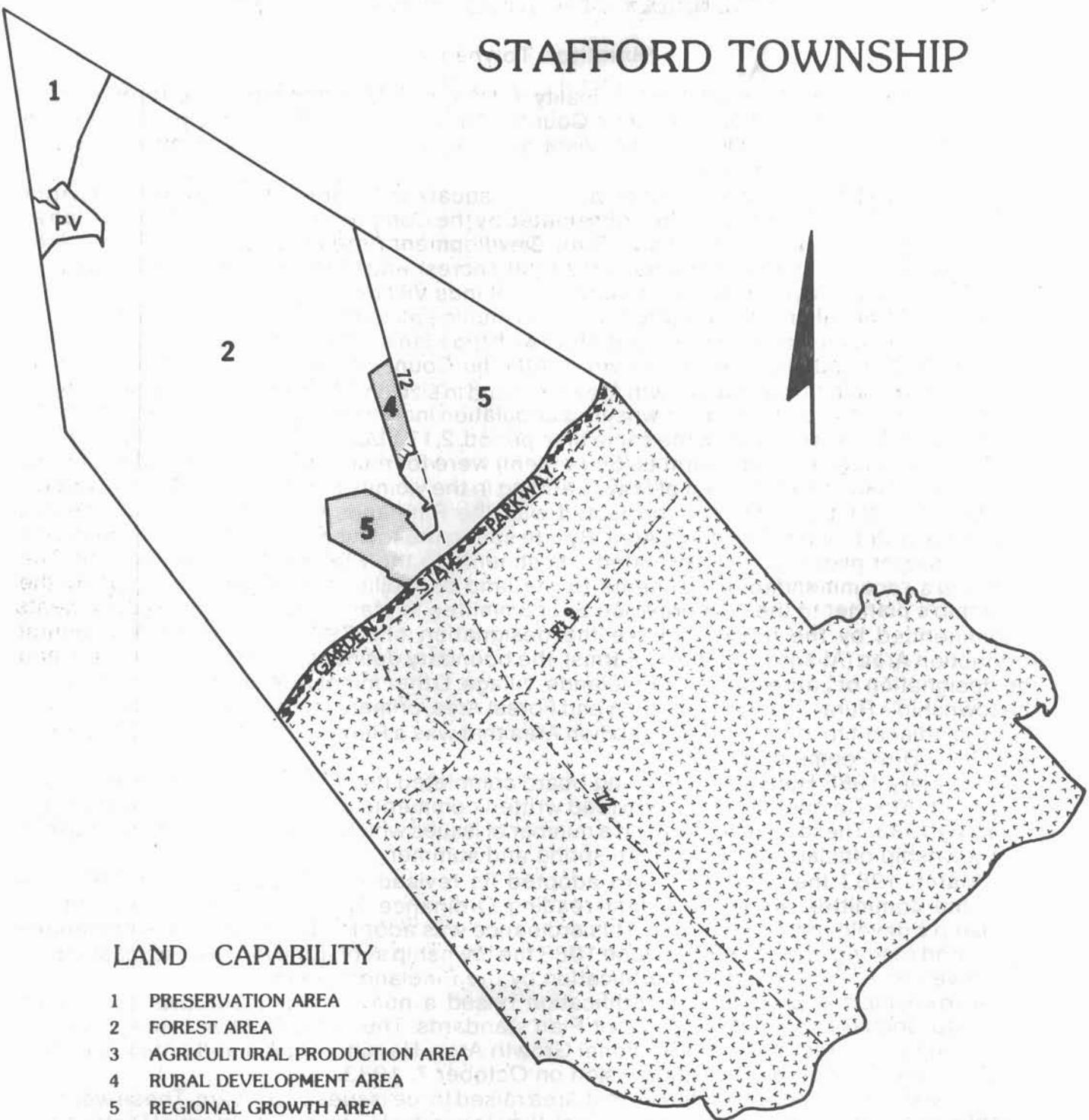
revised its master plan and ordinance to respond to all of the Commission's conditions except for three conditions which pertained to the ordinance. Items specifically excluded from the revised ordinance were the allocation of Pinelands Development Credits to private landowners in the Preservation Area, provisions for the accommodation of PDCs in the township's Regional Growth Area, and the incorporation of mandatory sign provisions. The township submitted these revisions to the master plan and ordinance to the Commission in April 1983.

After reviewing and holding a public hearing on the application, the Executive Director concluded that exclusion of the three items made the township's documents inconsistent with the Comprehensive Management Plan. He subsequently recommended that the Commission disapprove Stafford's master plan and ordinance. The Commission was scheduled to act on Stafford's application at its August 5, 1983 meeting.

It is important to note that Commission and township representatives had on several occasions discussed possible modifications to the conditions set forth in Resolution No. 82-73. As an example, in amending the master plan, the township modified the language relative to sewerage the Regional Growth Area. The Commission staff had provided the township with alternative language for the mandatory sign provisions. Furthermore, even prior to the township's conditional certification, Commission representatives indicated that the township might modify, but not eliminate entirely, portions of the PDC program as it applied to the Regional Growth Area. With respect to the latter, the Conformance Subcommittee agreed that the township could limit the application of PDCs to approximately 43 acres within the Ocean Acres portion of the township's Regional Growth Area. The subcommittee recommended this modification of the Comprehensive Management Plan in light of the scattered development and nature of the ownership patterns which exist in the Ocean Acres subdivision.

At the Commission's August 5, 1983 meeting, township officials expressed a desire to consider the additional revisions which would allow the township to attain full certification. As stated by one councilman, the disadvantages associated with nonconformance outweighed his objection to the PDC and sign provisions. The township council subsequently approved an ordinance incorporating the items previously excluded from the development ordinance, and Stafford Township received full certification on October 7, 1983.

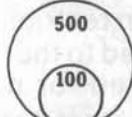
STAFFORD TOWNSHIP



LAND CAPABILITY

- 1 PRESERVATION AREA
- 2 FOREST AREA
- 3 AGRICULTURAL PRODUCTION AREA
- 4 RURAL DEVELOPMENT AREA
- 5 REGIONAL GROWTH AREA
- PV PINELANDS VILLAGE
- PINELANDS AREA BOUNDARY
- PINELANDS NATIONAL RESERVE ONLY
- CHANGED TO LOWER DENSITY
- CHANGED TO HIGHER DENSITY

ACRES



CONDITIONALLY CERTIFIED MUNICIPALITIES

Hamilton Township

Hamilton Township, the largest municipality in New Jersey, is located in the southeastern portion of the Pinelands Area in Atlantic County. Adjacent Pinelands municipalities are the Townships of Galloway, Mullica, Buena Vista, and Weymouth, the Town of Hammonton, Egg Harbor City, and Folsom Borough.

Of the township's 108.6 square miles, all but 1.5 square miles are within the Pinelands Area. The Pinelands Area of the township is designated by the Comprehensive Management Plan as Regional Growth Area (11,880 acres), Rural Development Area (15,580 acres), Forest Area (40,270 acres), Agricultural Production Area (1,040 acres), and Military and Federal Installation Area (780 acres). Mizpah was designated a Pinelands Village.

Hamilton Township is one of three Pinelands municipalities in Atlantic County which have Regional Growth Areas and where, consistent with the Plan's development policies, the bulk of new residential and commercial growth in Atlantic County's Pinelands is slated to occur. Hamilton Township's Regional Growth Area is second in size only to the Regional Growth Area in Egg Harbor Township. Hamilton Township's population increased from 6,445 in 1970 to 9,499 in 1980, a 47.4 percent jump. In the same time period, 2,171 building permits were issued. The greater percentage of these permits (58 percent) were for multi-family housing. Much of this new development occurred east of Mays Landing in the vicinity of the Atlantic City Racetrack.

In March 1981 the township contracted with the Pinelands Commission for a planning assistance grant for the Pinelands Area. By late spring the township's planner had prepared a revised master plan and recommended adjustments to the Plan's land capability map. The township's recommended adjustments to the land capability map were presented by the township's planner to the Conformance Subcommittee in May 1982. The major adjustments recommended by the township were the designation of 1,794 acres as an Agricultural Production Area (Atlantic Blueberry Farms), the boundary delineation for Mizpah Village, and the designation of Laureldale as a Pinelands Village. Other minor adjustments were made to the township's Rural Development Area and Forest Area, primarily for administrative purposes. An area adjacent to the Military Installation Area that was a Regional Growth Area was placed in a Rural Development Area.

By January 1983 Hamilton's planning board completed its draft of a revised development ordinance. The Commission staff provided written comments on this draft to the township in February 1983. These comments listed a number of issues which were subsequently discussed with township officials throughout the spring and summer.

In March 1983 the planning board adopted its revised master plan. In April 1983 the township committee adopted on first reading Ordinance No. 846-33 which revised the township's development ordinance. This ordinance was adopted by the township committee on second reading in May 1983. In June 1983 the township submitted the revised master plan and development ordinance for certification by the Pinelands Commission.

The township's application for certification raised a number of substantive issues with regard to Comprehensive Management Plan standards. These substantive issues primarily concerned the Forest Area and Regional Growth Area. Hamilton's plan and ordinance were conditionally certified by the Commission on October 7, 1983.

The township's proposals for the Forest Area raised three issues of concern. These were the establishment of an Adult Bookstore District, the size of the Highway Commercial District, and the number of units township zoning permitted in the Forest Area. To be consistent with the Plan, the Commission recommended that the Adult Bookstore District be eliminated since it was not a permitted use in the Forest Area. The staff recommended that two Highway Commercial Districts in the Forest Area be reduced in size. This recommendation was made because of the undeveloped character of these two areas and because the township had not imposed Plan restrictions on new commercial uses in the Forest Area. Finally, the minimum lot sizes assigned to the township's three zoning districts within the Forest Area (FA-5, FA-15, and FA-20) allowed for more new residential units than the amount allocated by the Plan to Hamilton's Forest Area. Only substantial density and/or land area adjustments could correct these inconsistencies. Therefore, the Commission staff recommended that a single district be

established with a minimum lot size of 34 acres. As with all conditions imposed by the Commission, Hamilton Township can modify them to reflect local planning factors and policy provided that these modifications are within the intent of the Commission's conditional certification and consistent with the Pinelands Protection Act and Comprehensive Management Plan.

In the township's Regional Growth Area, a number of substantive inconsistencies were found to exist. The staff's recommended revisions to the township's development ordinance noted the necessity for higher base densities and bonus densities to accommodate the use of Pineland Development Credits.

To correct the shortfall in densities, the Commission's conditional certification requires that the township adjust its by-right density in the GA-M and GA-I districts to correct the shortfall in the base density. To correct the shortfall in total density, an increase in by-right density with Pinelands Development Credits was required. This would also allow an increase in density in the township's GA-L district with Pineland Development Credits.

A review of the PURD development standards contained in the township's development ordinance disclosed that these standards worked against the achievement of permitted densities in the GA-M and GA-I districts.

Based on computer-assisted analyses, it was found that under average circumstances a density of 3.15 units per acre could be achieved as compared to the maximum density of 6.375 and 8.2 units per acre permitted in the GA-M and GA-I districts respectively. Therefore, it was necessary to relax many of the PURD standards imposed by the township. The township's standards which most hindered the achievement of density were requirements for housing mix, open space, lot area, and yard size. Township definitions for open space, net residential density, and sewer availability also required clarification.

Finally, on site clustering in the GA-L, GA-M, and GA-I districts for projects developed under the by-right densities was required due to the presence of wetlands within these districts. Smaller minimum lot sizes will help to achieve the permitted by-right densities on parcels of land which are partially constrained due to wetlands.

As mentioned earlier, other less important inconsistencies exist in Hamilton's revised ordinance. These inconsistencies relate to definitions, management programs, and the CMP's development review procedures. The changes necessary to correct these inconsistencies were also outlined in the Commission's conditional certification of the township's development ordinance.

Township officials, the public, and the development community have been actively involved in Hamilton's conformance process. At the August 1983 public hearing on the township's application for Commission certification, a great deal of testimony was presented in support of and in opposition to the township's ordinance. A fundamental concern of the township is the large number of units that it is required to accommodate in the Regional Growth Area. The township feels this number is unwarranted and is now working with a consultant to ascertain whether the CMP's population projections are consistent with present factors affecting population. The development community, on the other hand, is concerned with the township's development standards in the Regional Growth Area, the environmental impact statement requirements, and other standards which they feel are cumbersome and unnecessary. The development community has also stated that these requirements will prevent the permitted densities from being achieved and increase the cost of housing.

At the October 1983 Commission meeting, when the Commission issued its conditional certification, Hamilton Township officials stated that they would present to the Commission at a later date their findings relative to population projections. As of this writing, no further discussions with the township have occurred, but talks are expected to resume.

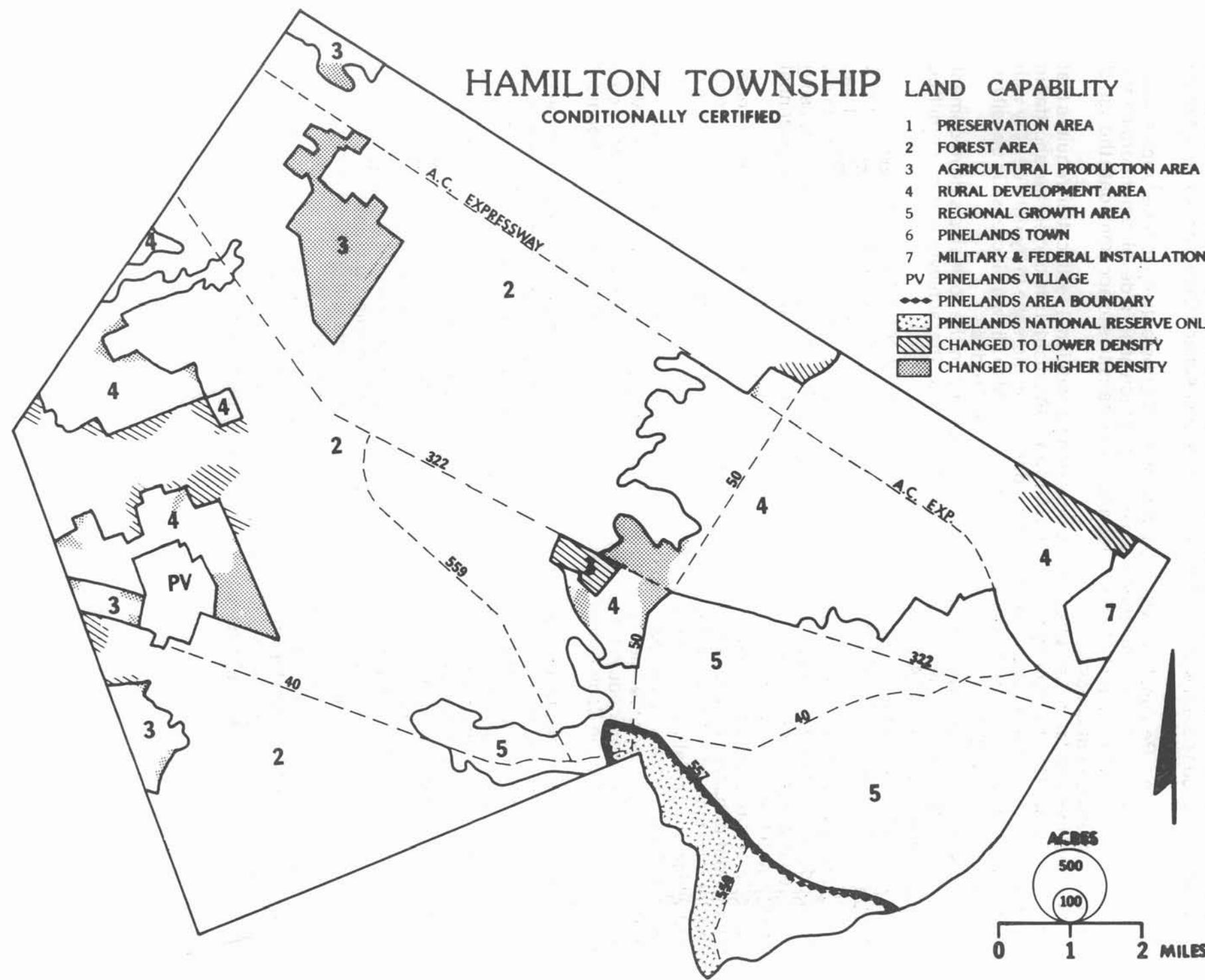
HAMILTON TOWNSHIP

CONDITIONALLY CERTIFIED

LAND CAPABILITY

- 1 PRESERVATION AREA
- 2 FOREST AREA
- 3 AGRICULTURAL PRODUCTION AREA
- 4 RURAL DEVELOPMENT AREA
- 5 REGIONAL GROWTH AREA
- 6 PINELANDS TOWN
- 7 MILITARY & FEDERAL INSTALLATION AREA
- PV PINELANDS VILLAGE
- PINELANDS AREA BOUNDARY
- PINELANDS NATIONAL RESERVE ONLY
- CHANGED TO LOWER DENSITY
- CHANGED TO HIGHER DENSITY

II-104



Berkeley Township

Berkeley Township, is located in the east-central portion of Ocean County, in the eastern part of the Pinelands Area. The township has a total land area of 41.9 square miles of which 16.1 square miles (38 percent) lie within the Pinelands Area. The Pinelands Area includes all lands in the township west of the Garden State Parkway and south of the Jersey Central Power and Light Company (JCP&L) right-of-way. A larger portion of the township (22.6 square miles) lies within the Pinelands National Reserve, outside the Pinelands Area. The federally-designated area includes the total land area west of the Parkway and all lands south of Route 37 extending out to the barrier island (Island Beach State Park).

Berkeley Township has grown rapidly over the past 20 years. Between 1960 and 1970 the township population nearly doubled (4,272 in 1960 to 7,918 in 1970), and in the next 10 year period almost tripled. (The 1980 population was 23,151.) Retirement community development, concentrated in the National Reserve area west of the Parkway, was the major contributing factor to the growth rate during the 1970's. In contrast, the Pinelands Area has remained predominantly undeveloped. Major land uses are public and quasi-public, such as the county-owned Robert J. Miller Airpark, the township industrial park off Route 530, and the municipal complex on Pinewald-Keswick Road. One of the last commercial cranberry bogs in Ocean County is located south of Dover Road in Berkeley's Pinelands Area. Residential development is virtually nonexistent in the area with the exception of a few houses in the vicinity of the Berkeley-Manchester boundary.

The Comprehensive Management Plan designates three management areas for Berkeley's Pinelands Area. These are the Preservation Area(approximately 17 percent of the township's Pinelands Area), Forest Area (approximately 73 percent), and Rural Development Area (approximately 10 percent). The Preservation Area includes the township's Cedar Creek drainage basin within the Pinelands Area. Over half of the Preservation Area is in public ownership. A few major landowners hold most of the land in the Rural Development Area. The Forest Area is a mix of large parcels, small lot subdivisions, and tracts which are now mostly in township ownership as a result of tax foreclosures.

Berkeley Township applied for Commission certification in August 1982. At that time the township submitted, as part of its application, a Pinelands element to the master plan and a new chapter to the township code containing Pinelands Area development regulations. Adjustments made in the Pinelands management areas included the designation of the entire Rural Development Area as a Rural Development Area/Municipal Reserve and the incorporation of Regional Growth densities in the zoning ordinance in anticipation of the Municipal Reserve being "triggered." The township made no adjustments in the Forest Area line. The township did, however, state in the master plan its interest in obtaining additional growth areas in western Berkeley and its support for Ocean County's efforts to acquire such a redesignation. The township submission also contained a disclaimer to the effect that the Pinelands revisions had been made only to comply with state law and were not a result of the local planning process.

In November 1982 the Pinelands Commission issued an order certifying with conditions Berkeley Township's master plan and land use ordinances. The conditions specified in Attachments A and B of that order were largely technical in nature. Berkeley has not yet formally responded to the conditions by submitting a revised plan and ordinance for Commission review and action. Conformance-related discussions, however, had been going on among the township, Ocean County, and Commission representatives. Since the issuance of the Commission's order, the township has requested and received extensions of the response deadline so it can continue these discussions.

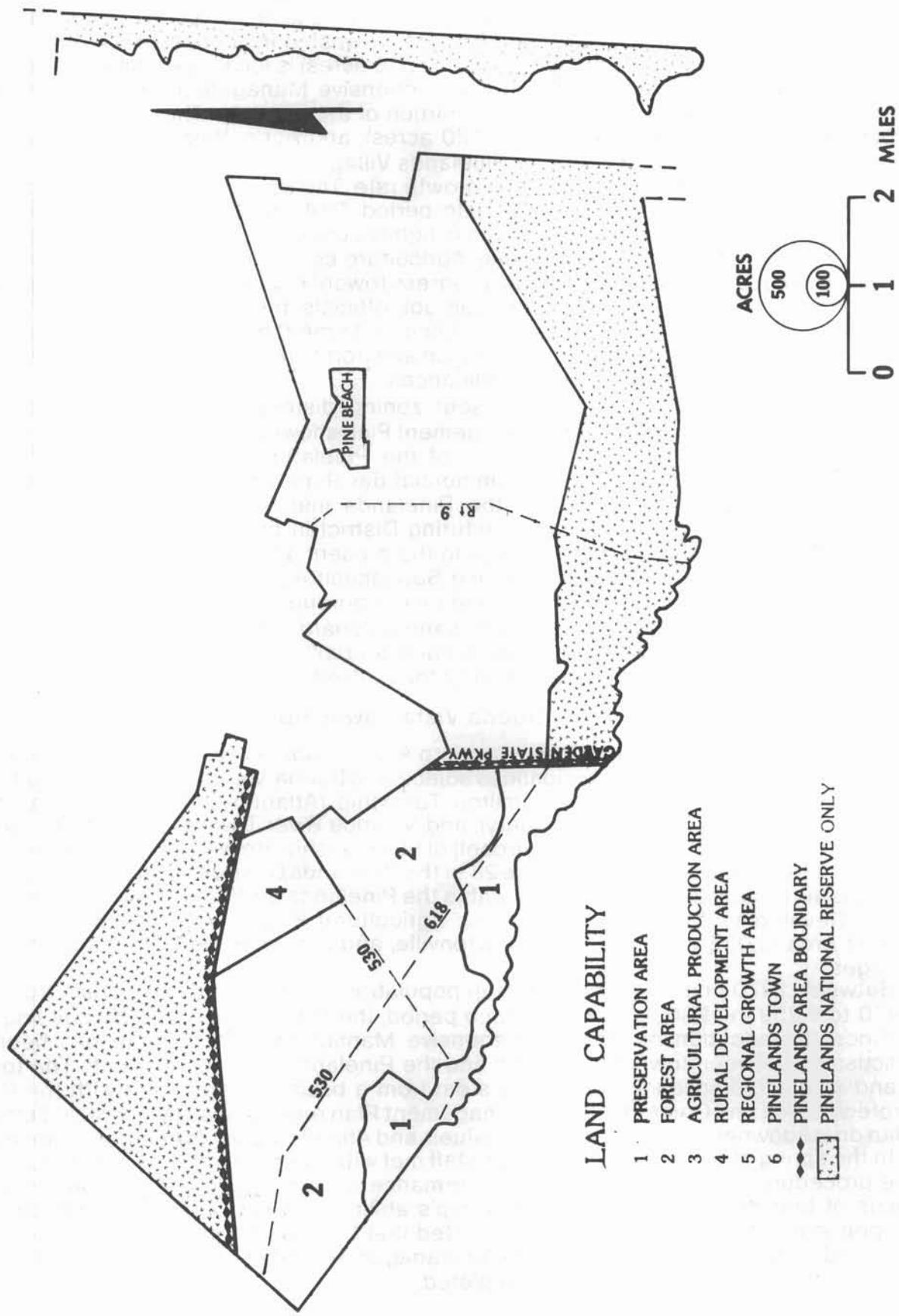
The major conformance issue in Berkeley Township relates to the determination of a future land use plan for western Berkeley. Ocean County took the lead in attempting to have approximately 4,000 acres in Berkeley's Forest and Rural Development Areas redesignated as a Regional Growth Area. As discussed in the section of this report summarizing county conformance, the Pinelands Commission disapproved this redesignation when it conditionally certified Ocean County's application in April 1983.

The township initially allowed the county to serve as its spokesman throughout much of these conformance discussions. Increasingly, however, the township planner attended

Conformance Subcommittee meetings with county representatives and more actively represented the township's position by preparing land use proposals for the area. After Ocean County and Commission representatives agreed in March 1983 that approximately 3,425 additional residential units could be provided for in western Berkeley, the township planner proceeded to prepare a land use plan based on that number. Both the township committee and planning board have endorsed that plan, and their planner has stated that the plan was consistent with the county master plan amendments adopted in June 1983.

Preparation of the corresponding revisions to Berkeley's master plan and ordinances specified in the Commission's conditional certification were held in abeyance until an agreement was reached on the county land use plan. At its October 7, 1983 meeting the Pinelands Commission disapproved Ocean County's certification application which effectively denied the county's proposed land use plan for western Berkeley Township. At this writing, Berkeley Township has until November 15, 1983 to submit a revised master plan and land use ordinances for the Commission's review and action.

BERKELEY TOWNSHIP
CONDITIONALLY CERTIFIED



NON-CERTIFIED MUNICIPALITIES

Buena Borough

Buena Borough is located in western Atlantic County, in the southern portion of the Pinelands Area. Pinelands municipalities which are adjacent to Buena Borough are Buena Vista Township in Atlantic County and Franklin Township in Gloucester County.

Approximately 45 percent of the borough (2,530 acres) is located within the Pinelands Area and Pinelands National Reserve. The Comprehensive Management Plan designates three management areas within the Pinelands portion of the borough. These are: Pinelands Town (700 acres); Rural Development Area (130 acres); and Agricultural Production Area (1,700 acres). Landisville was designated a Pinelands Village.

The borough has experienced a slow growth rate. The population increased from 3,283 in 1970 to 3,642 in 1980. In the same time period, 214 building permits were issued. The development that has occurred in Buena is tightly concentrated in the central portion of the borough, south of the Black Horse Pike. Agriculture continues to be the principal land use.

Until late 1982 the borough made no progress toward compliance with the Comprehensive Management Plan. At the invitation of borough officials, the Commission staff met with the local planning board in December 1982. Since that time the Commission staff has attended planning board meetings on a regular basis in an effort to assist the borough in the revision of its present master plan and land use ordinances.

A comparison of the borough's present zoning districts with the management areas designated by the Comprehensive Management Plan showed only minor differences between the two. Both plans designate the bulk of the Pineland's Area for agricultural use and concentrate future residential and commercial development within the area designated a Town by the Plan. Adjustments to the Pinelands management areas may include the incorporation of the borough's Manufacturing District in the Pinelands Town area and the inclusion of the Rural Development Area in the present agricultural district. These changes have been reviewed by the Conformance Subcommittee and would be recommended for Commission approval if formally proposed by the borough.

As of this writing, the Buena Borough planning board indicated that it will be scheduling hearing dates for the adoption of its master plan and will be making a recommendation to the borough council regarding the adoption of the revised land use ordinances.

Buena Vista Township

Buena Vista Township is located in western Atlantic County, in the southern portion of the Pinelands Area. Pinelands municipalities adjacent to Buena Vista are Buena Borough, Folsom Borough, Weymouth Township, Hamilton Township (Atlantic County), Franklin Township, Monroe Township (Gloucester County), and Maurice River Township (Cumberland County).

Approximately 25,178 acres (94 percent) of the township are within both the Pinelands Area and Pinelands National Reserve. Plate 28 of the Pinelands Comprehensive Management Plan designates three management areas within the Pinelands portion of the township. These are: Rural Development Area (12,000 acres); Agricultural Production Area (8,140 acres); and Forest Area (5,038 acres). Milmay, Newtonville, and Richland are designated as Pinelands Villages.

Between 1970 and 1980 the township population increased by 64 percent, from 4,239 in 1970 to 6,959 in 1980. In the same time period, the township issued 485 building permits.

Since the adoption of the Comprehensive Management Plan, there has been limited discussion between township officials and the Pinelands Commission staff. The township's stand against compliance appears to stem from a basic disagreement with the Pinelands Protection Act and Comprehensive Management Plan regulations, the perceived effect of the Plan on landowner rights and property values, and Atlantic County's non-compliance position.

In the spring of 1983, the Commission staff met with township officials and discussed again the procedures to obtain municipal conformance and specific township concerns. A major focus of that discussion was the township's ability to modify CMP management areas in response to local needs. The staff suggested that the township review its existing land use plan and present its recommendations for management area adjustments to the Commission. To date, this review has not been completed.

Egg Harbor City

Egg Harbor City is located in north-central Atlantic County, in the southern portion of the Pinelands Area. The Mullica River is the city's northern boundary. Municipalities adjacent to the city are the Townships of Galloway, Mullica and Hamilton in Atlantic County and Washington Township in Burlington County.

Egg Harbor City is entirely within the Pinelands Area. Approximately 36 percent of the city (2,784 acres) is within the Preservation Area. The remainder (4,918 acres) is within the Protection Area. The Pinelands Plan designated two management areas within the city's Protection Area — Pinelands Town (2,040 acres) and Forest Area (2,878 acres).

Egg Harbor City's population increased from 4,304 in 1970 to 4,618 in 1980. This population growth was primarily caused by new residential development in the developed portion of the city adjacent to the White Horse Pike.

Prior to the Commission's adoption of the Comprehensive Management Plan on November 21, 1980, the city reviewed the draft management Plan and provided its comments to the Pinelands Commission. Based on this review, the city requested that the Commission's draft land capability map be revised to eliminate two tracts designated as Agricultural Production Areas and increase the extent of the area designated as a Town. These two requests were incorporated in the Comprehensive Management Plan. However, the city subsequently decided not to comply with the Pinelands Plan. This position was based primarily on the city's support for Atlantic County's noncompliance position. Partly on the basis of discussions with the Commission staff and the modified positions of several other Atlantic County municipalities, the city revised its position in December 1981 and accepted municipal conformance funds. Local officials are now working towards compliance with the Pinelands Plan. At the present time the city is nearing the completion of its master plan revisions and is in the early stages of its land use ordinance revisions. The city's major concerns are to provide for continued development in an area known as the "Gold Coast" north of Moss Mill Road and along Route 563, its industrial park, and small lots within the city's downtown area.

Egg Harbor Township

Egg Harbor Township is located in eastern Atlantic County, in the southern portion of the Pinelands Area. The Garden State Parkway is the eastern boundary of the township's Pinelands Area. Pinelands municipalities adjacent to the township's Pinelands Area are Galloway and Hamilton Townships in Atlantic County.

Approximately 42 percent of the township (18,390 acres) is within the Pinelands Area. An additional 11 percent (4,920 acres) is within the Pinelands National Reserve but outside the Pinelands Area. The Pinelands Area of Egg Harbor Township is made up of three management areas: the Regional Growth Area (14,375 acres), Rural Development Area (225 acres), and Military and Federal Installation Area (3,575 acres). The township's Forest Area (3,790 acres) is within the Pinelands National Reserve but outside the state Pinelands Area.

During the last decade Egg Harbor Township experienced a greater population increase than Hamilton Township or Galloway Township, the other two Pinelands municipalities in Atlantic County with Regional Growth Areas. Egg Harbor's population increased from 9,882 in 1970 to 19,381 in 1980. In the same time period, 3,065 building permits were issued.

Egg Harbor Township has the largest Regional Growth Area in Atlantic County. Its proximity to major employers (Atlantic County and the Federal Aviation Administration Technical Center), the existence of major transportation routes, the extent of development in and adjacent to the township, and the presence of and potential for infrastructure to support new development were the critical factors used to delineate the Regional Growth Area in Egg Harbor Township.

Egg Harbor Township has from the beginning advocated noncompliance with the Pinelands Plan. The reasons put forth by local officials include excessive regulation, high densities in the Regional Growth Area, the Plan's effect on municipal finances, and support for Atlantic County's noncompliance position.

While Egg Harbor Township continues to be a noncomplying town, there have been informal discussions between township officials and the Commission staff. The discussions have been exploratory and have focused on CMP land use planning options that would allow the township to accommodate future growth in line with new or expanded capital improvements.

Township officials have suggested that the Pinelands Commission consider phased growth for the southwestern portion of the township where no sewerage or water facilities currently exist and where lot sizes and ownership patterns might make assemblage difficult. The township is also interested in excluding the use of Pinelands Development Credits to increase densities in the Planned Unit Residential District in the Shore Mall Area. These proposals are currently being reviewed in detail by the township and the Conformance Subcommittee.

Folsom Borough

Folsom Borough is located in western Atlantic County, in the southern portion of the Pinelands Area. Pinelands municipalities adjacent to Folsom are the Town of Hammonton, Hamilton Township, Buena Vista Township (Atlantic County), and Monroe Township (Gloucester County).

All of Folsom Borough is located within the Pinelands Area (5,625 acres). The Plan designates within Folsom a Rural Development Area (770 acres), an Agricultural Production Area (1,500 acres), and a Forest Area (3,355 acres). The Comprehensive Management Plan designated central Folsom as a Pinelands Village. The Forest Area within the borough is part of a larger Forest Area which extends south from the Preservation Area in Mullica Township to the Forest Area in Cape May County. The upper reaches of the Great Egg Harbor River are located within Folsom Borough and neighboring Monroe Township.

The borough's population increased from 1,767 in 1970 to 1,892 in 1980. Most of the growth occurred in what is now a Village under the Comprehensive Management Plan.

While the Commission staff has had several meetings with borough officials regarding conformance, Folsom has not at this time moved toward compliance with the Comprehensive Management Plan. Borough officials have cited excessive regulation, the Plan's effect on property rights and future land use activity, and objections to specific Plan standards as reasons for their noncompliance position.

Galloway Township

Galloway Township is located in eastern Atlantic County, in the southern portion of the Pinelands Area. Pinelands municipalities adjacent to Galloway are Egg Harbor City, Port Republic City, and Hamilton Township in Atlantic County and Washington Township in Burlington County. The Pinelands Area of Galloway Township (25,520 acres, 53 percent of the township) is bounded on the east by the Garden State Parkway. Much of the land east of the Parkway is outside both the Pinelands Area and Pinelands National Reserve. The exception is an area east of Route 9 which is in the National Reserve.

The Pinelands Area of the township contains all the Plan's management area designations. The Preservation Area District (2,400 acres) is located to the north of Clarks Landing Road. The Forest Area (3,520 acres) extends to the south of Clarks Landing Road. In combination with the Agricultural Production Area (5,240 acres) and Rural Development Area (9,570 acres), these areas buffer the more intensely developed lands which comprise the Regional Growth Area in the township's southeastern portion, adjacent to the Garden State Parkway. The Pinelands Town area (1,350 acres) is an extension of the Town area of Egg Harbor City. Cologne-Germania, Oceanville, Pomona, and Smithville are designated Pinelands Villages. The Villages of Oceanville and Smithville are, however, located outside the Pinelands Area but in the Pinelands National Reserve.

Between 1970 and 1980, 1,308 building permits were issued in Galloway Township. In this same time period, the township's population increased from 8,276 to 12,176. The development that has occurred in the township has been predominantly in the eastern portion, outside the Pinelands Area. The Smithville development, Wrangleboro Estates, and other large developments have been approved in this area and are presently under construction. Development which has occurred in the Pinelands Area has been primarily infill development or large lot single family homes in the township's rural portion.

Many of the local land management area designations contained in the Comprehensive Management Plan reflect recommendations made by various township officials after their review of the draft Pinelands Plan in the summer of 1980. However, the township has

consistently maintained its position of not conforming to the Plan due to a number of other issues, many of which arise from general concerns about overregulation and the Plan's effect on home rule. Since some of the township's concerns center upon specific planning and land use issues, the Conformance Subcommittee requested that the township review its current master plan and development standards in an effort to identify what it believes to be major conflicts with the Pinelands Comprehensive Management Plan. As of this writing, the township has not completed this evaluation.

Hammonton Town

The Town of Hammonton is located in northwestern Atlantic County, in the southern portion of the Pinelands Area. Pinelands municipalities adjacent to Hammonton are Folsom Borough, Hamilton Township, Mullica Township (Atlantic County), Winslow Township (Camden County), Washington Township, and Shamong Township (Burlington County).

All of Hammonton is located within the Pinelands Area. The largest management area designated by the Comprehensive Management Plan is the Agricultural Production Area (11,910 acres). The Agricultural Production Area largely surrounds the Pinelands Town area (3,550 acres). A smaller part of the town adjacent to Mullica Township is designated a Forest Area (2,353 acres). Thirty-four percent of Hammonton's Pinelands Area (9,318 acres) is in the Preservation Area. Much of this land in the Preservation Area (3,409 acres) is part of Wharton State Forest.

Hammonton is a stable community with a slow growth rate. Hammonton's population increased from 11,464 in 1970 to 12,298 in 1980. In this same time period, 602 building permits were issued. New development during this time was hampered by a temporary ban on the expansion of the municipal sewerage system. Existing development in Hammonton is concentrated in the town's western portion, below the White Horse Pike. Both sides of the White Horse Pike contain predominantly commercial development. New development has, for the most part, occurred as infill development.

There have been numerous discussions between Hammonton officials and the Commission staff to try to alleviate some of the concerns expressed by local officials. These concerns include the Plan's effect on "home rule", property rights and values, municipal finances, the size of the Town area, CMP regulations for the Agricultural Production Area, the Pinelands Development Credit program, and the town's industrial zone.

In June 1982 the town council voted to comply with the Comprehensive Management Plan. In December 1982 the planning board adopted a revised master plan which recognized the revisions to the management areas that the Conformance Subcommittee had agreed to in response to municipal requests. The major revision was the expansion of the Pinelands Town area to incorporate developed or developable areas adjacent to existing development that can be served by the town's water and sewerage systems. A Rural Development Area was established on Hammonton's eastern border to act as a buffer between the Town and the Forest Area.

However, the city council did not adopt the necessary amendments to its land use ordinances, and in the spring of 1983 the municipal attorney advised the Conformance Subcommittee that several issues necessitated reconsideration of the previously adopted master plan. The most notable topic concerned the structure and substance of land use requirements for the Agricultural Production Areas. The town subsequently made an informal proposal to modify CMP density provisions for Agricultural Production Areas by permitting 3.2 acre lots for residential development. In concert with this proposal, the town would proceed to implement the statewide agricultural retention program there through the purchase of development easements. The township's proposal was based upon its concern that compliance with the Pinelands Plan might foreclose local participation in the statewide agricultural retention program. The Conformance Subcommittee deferred formal consideration of this proposal until the eligibility of local farmers for the state program was determined. In the meantime, township officials were requested by the subcommittee to determine if any land within the designated agricultural zones is unsuitable for farming. As of this writing, these tasks have not been completed.

Recently, town officials informally advised the Commission that they are proceeding to prepare land use ordinances on the basis of their 1982 master plan.

Mullica Township

Mullica Township is located in northwestern Atlantic County, in the southern portion of the Pinelands Area. The Town of Hammonton lies on its western border, and Egg Harbor City is on its eastern border. Hamilton Township is to the south, and Washington Township (Burlington County) is to the north.

All of Mullica Township (35,989 acres) is within the Pinelands Area. Of this amount, 5,389 acres (14.9 percent) are within the Preservation Area. The remaining four management areas designated by the Comprehensive Management Plan are: Pinelands Town (100 acres), Rural Development Area (2,290 acres), Agricultural Production Area (2,730 acres), and Forest Area (25,480 acres). Elwood, Nesco, Sweetwater, Weekstown, and Wescoatsville are designated Pinelands Villages.

Mullica Township increased in population from 3,391 in 1970 to 5,243 in 1980. Of all the Atlantic County communities which have all or significant portions of their land in a Forest Area, Mullica experienced the second greatest percentage population increase during this time (54 percent). Much of this increase occurred within what are now Village areas and infill developments.

Mullica Township, like other municipalities in Atlantic County, initially adopted a non-compliance posture toward the Plan. The reasons stated for the township's original position included support for Atlantic County's noncompliance stand and what local officials viewed as burdensome and excessive regulations, inadequate compensation for landowners in restricted land use areas, a loss of "home rule", and a lack of consideration for the township's current master plan and land use ordinances.

However, in July 1981 the township committee voted to comply with the Comprehensive Management Plan. In part, this was due to the modified position of other Atlantic County municipalities and the township's belief that it could work with the Pinelands Commission to address some of the concerns it had. The planning board, acting on behalf of the township, presented the Conformance Subcommittee with its recommendations for revising the Commission's land capability map. The major revisions were proposed land areas for the five Villages designated in the Comprehensive Management Plan. Smaller revisions were made to the township's Rural Development Area in the eastern portion of the township, north of the White Horse Pike. A Rural Development Area was established extending west from the Town area.

The planning board adopted a revised master plan in September 1982. The planning board has completed its revisions to the development ordinance and has forwarded it to the township committee for its adoption.

Port Republic City

The City of Port Republic is located in northern Atlantic County, in the southern portion of the Pinelands Area. Pinelands municipalities adjacent to Port Republic are Galloway Township (Atlantic County), Bass River Township, and Washington Township (Burlington County). The Mullica River separates Port Republic from Bass River Township and Washington Township.

Port Republic has 2.79 square miles (1,790 acres) west of the Garden State Parkway within the Pinelands Area; 1.09 square miles east of the Parkway are outside the Pinelands Area but within the Pinelands National Reserve. Of the 2.79 square miles in the Pinelands Area, 2.60 square miles are in the Preservation Area (north of Clarks Landing Road), and .19 square miles are in the Protection Area. The city's Protection Area is designated by the Comprehensive Management Plan as a Forest Area. Port Republic is designated a Pinelands Village.

The first conformance discussion between the Commission staff and Port Republic officials was held on February 3, 1981. The staff presented an overview of the Comprehensive Management Plan and conformance process and explained the availability of grant funds to assist the city in revising its master plan and zoning ordinance. Subsequent to this meeting, the staff had a number of telephone conversations and corresponded with the city's planning board secretary, members of the planning board, and the mayor. Later that month the staff was informed by the mayor that the city voted not to accept grant funds and would not conform to the Comprehensive Management Plan.

No further contact occurred with Port Republic City until July 1981 when the staff notified

the mayor that grant funds were again available to the city. No response to this letter or a follow-up letter of September 1981 was received by the Commission.

In the late summer of 1981 the staff again contacted the mayor to discuss conformance. The mayor indicated that the issue would be brought up at the next planning board meeting. The staff was then contacted by a member of the planning board, and a meeting was arranged in October with a special committee created by the board. The conformance process was discussed at this meeting, particularly the procedures for delineating the Village of Port Republic. Two further meetings were held with the planning board's committee, including a site visit later in October for the purpose of establishing the boundaries for Port Republic Village. The boundaries established by the city included all of the Pinelands Area in the Protection Area and a portion of the Preservation Area adjacent to Clarks Landing Road. The Village portion within the Preservation Area would allow infill development to occur on areas with a depth to seasonal high water table greater than five feet. A large part of the city's Preservation Area is in public ownership. The area outside the Village in private ownership has extensive areas that are classified as wetlands or have soils with a depth to seasonal high water table of less than five feet.

In January 1982 the Commission staff contacted the planning board's committee and noted that the Commission would be considering a resolution to continue existing development review procedures in municipalities which had made progress towards conformance. The staff informed the committee that it wished to present the city's Village delineation to the Commission's Conformance Subcommittee on January 11, 1982. The city's Village delineation was favorably received by the Conformance Subcommittee.

It had been the Commission's expectation that Port Republic would take advantage of the additional time provided for completion of the conformance process. However, in a letter dated January 13, 1982, the city officially submitted its existing master plan and zoning ordinance for Commission certification. With the submission of the city's application for certification, the staff began its review. A hearing was conducted by the Executive Director on March 15, 1982. A number of persons who testified indicated that the city's existing master plan and land use ordinances should be certified without condition. On March 23, 1982 the staff met with the mayor to discuss the staff's recommendation for conditional certification. The mayor expressed the city's concerns for property owners in the Preservation Area. The mayor also stated the city's disagreement with the Commission's requirement that the depth to seasonal high water table be at least five feet.

The staff's recommendations for conditional certification included three attachments. Attachment I included the necessary revisions to the city's municipal land use ordinance. These revisions consisted of procedural changes (application review procedures) and substantive changes (zoning district modifications and Plan management program standards). The revisions to the city's zoning districts affected the Preservation Area only. The city had established three districts in the Preservation Area. These were Conservation-Recreation, Agricultural-Residential, and Campgrounds. The largest of these three districts is the Conservation-Recreation District. The permitted uses in this district closely resembled the Plan's permitted uses in the Preservation Area. The permitted uses in the Agricultural-Residential District and Campground District which were consistent with the Plan were incorporated by the staff in the Conservation-Recreation District. Permitted uses of the CMP which were also incorporated into the Conservation-Recreation District included forestry, Pinelands Development Credits, and residential dwellings on 3.2 acre lots provided that the applicant could demonstrate a cultural or economic link to the Pinelands.

Attachment II contained the revisions to the future land use section of Port Republic's master plan to reflect the passage of the Pinelands Protection Act and the adoption of the Comprehensive Management Plan. Attachment III supplemented the natural resource data of the environmental analysis section of the city's master plan.

On April 16, 1982 the Conformance Subcommittee recommended conditional approval of the city's application for certification. A copy of the Executive Director's report and the Commission's certification order was forwarded to the city on April 21, 1982. Prior to this, the staff met with the planning board committee to explain the Conformance Subcommittee's recommendation. On April 30, 1982, the Commission conditionally certified the city's application.

The Commission's order required that the city respond to the conditions of the conditional certification by August 28, 1982. The city did not respond to the Commission's conditional certification, although the staff did meet with the committee to discuss the planning board's review of the Commission's conditions. No other meetings with Port Republic officials have been held. Since August 28, 1982 the Commission has been directly implementing the Plan in the Pinelands Area portion of Port Republic.

Weymouth Township

Weymouth Township is located in southwestern Atlantic County, in the southern portion of the Pinelands Area. Pinelands municipalities adjacent to Weymouth Township are Estell Manor City, Buena Vista Township, Hamilton Township (Atlantic County), and Maurice River Township (Cumberland County).

All of Weymouth Township (8,200 acres) is located within the Pinelands Area or Pinelands National Reserve. Eighty-three percent of the township (6,820 acres) is in the Pinelands Area. The remainder is located in the Pinelands National Reserve. All of the township's land area has been designated a Forest Area by the Pinelands Comprehensive Management Plan. Dorothy and Belcoville were designated Pinelands Villages. The center of Belcoville Village is located in the Pinelands National Reserve, outside the Pinelands Area.

Weymouth's population increased from 998 persons in 1970 to 1,260 persons in 1980. The township issued 126 building permits during this period. The majority of this development occurred in Belcoville, outside the Pinelands Area, which has public sewer and water. Almost all the remaining development was located in Dorothy Village on the township's western border. Dorothy is contiguous to the Village of Estell Manor in Estell Manor City.

Like other Atlantic County municipalities which have adopted a position of noncompliance with the Pinelands Plan, the township has been discussing Pineland issues on an informal basis with the staff and the Conformance Subcommittee. The township's principal objections focus on what it considers excessive regulation, the Plan's effect on "home rule", municipal taxation, and land use activity.

Since the Plan took effect in January 1981, the staff has had numerous meetings with the township's planning board. These meetings focused on general conformance-related issues and specific land use issues such as the delineation of Dorothy and Belcoville Villages. The minimum lot sizes proposed for the Forest Area by the township vary from five to 35 acres and were based on existing lot sizes and development patterns, land ownership patterns, and environmental criteria.

The Weymouth Township planning board's land use recommendations were reviewed by the Commission staff and the Conformance Subcommittee in May 1982. These recommendations were favorably received by the subcommittee. Subsequent to this Conformance Subcommittee meeting, the staff received a copy of a resolution adopted on June 2, 1982 by the Weymouth Township committee accepting the planning board's recommendation for the delineation of the Pinelands Village of Dorothy. Also, the staff has continued to assist the planning board in revising its master plan. However, the Commission is presently implementing the Plan in the Pinelands Area portion of Weymouth Township.

Shamong Township

Shamong Township is located in southwestern Burlington County, in the northwestern portion of the Pinelands Area. Pinelands municipalities which abut Shamong include the Townships of Medford, Tabernacle, and Washington in Burlington County, the Town of Hammonton in Atlantic County, and Waterford Township in Camden County. The Pinelands Protection Act designated both Preservation and Protection Areas in the township, with the Preservation Area consisting of approximately 21,803 acres and the Protection Area consisting of 8,014 acres. All of the township's 46.6 square miles are within the Pinelands Area.

The Comprehensive Management Plan designated an Agricultural Production Area of approximately 1,100 acres within Shamong's portion of the Preservation Area, leaving the remaining 20,703 acres in the Preservation Area District. The Protection Area portion of Shamong contains the following land management areas: Regional Growth Area (1,220 acres), Rural Development Area (740 acres), Agricultural Production Area (4,830 acres), and Forest

After the draft management area map was prepared, several additional issues arose which required attention. The township set out to delineate Special Agricultural Production and Infill Settlement Areas in the Preservation Area. The staff and Conformance Subcommittee held numerous discussions with township representatives concerning these proposals, particularly regarding the criteria for a Special Agricultural Production Area. Eventually a map was developed which was presented to and approved by the Conformance Subcommittee.

On July 12, 1983 the Tabernacle Township planning board held a public hearing on the township's revised master plan which it subsequently adopted. There was quite a bit of controversy at the hearing concerning commercial uses in one of the township's Infill Settlement Areas. The township planning board has also developed draft land use ordinances which have been referred to the township committee. As of this writing, the Commission has not had an opportunity to review these ordinances.

Lacey Township

Lacey Township is located in central Ocean County, in the eastern part of the Pinelands Area. The township's total land area is 84.6 square miles of which 65.6 square miles (78 percent) lie within the Pinelands Area. All lands west of the Parkway in Lacey Township are within the Pinelands Area. The entire township is within the federally-designated Pinelands National Reserve.

Like many Ocean County communities, Lacey has experienced a rapid growth rate over the past two decades. The township more than doubled its population between 1960 and 1970 (1,940 to 4,616) and tripled it from 1970 to 1980 (4,616 to 14,161). Development in Lacey has occurred almost exclusively east of the Garden State Parkway. With the exception of 100 homes in the Bamber Lake area, resource extraction operations, and other resource-related industry, Lacey's Pinelands Area is virtually undeveloped.

The Pinelands Comprehensive Management Plan designates four management areas for Lacey's Pinelands Area. These are the Preservation Area (30,893 acres, 74 percent of its Pinelands Area), Forest Area (10,177 acres, 24 percent), Rural Development Area (914 acres, two percent), and the Pinelands Village of Bamber Lake which is within the Preservation Area. The Preservation Area encompasses all lands in Lacey within the Cedar Creek watershed. Approximately 12,500 additional acres there will be purchased by the state under the Pinelands acquisition program. To date, nearly 8,000 acres have been purchased. The second largest management area is the Forest Area which encompasses the Forked River drainage basin as well as 1,000 acres in the northwest corner of the township near Manchester's Whiting Village. The Oyster Creek drainage basin defines the Rural Development Area which is located along the township's southern border, adjacent to Ocean Township. Management areas east of the Garden State Parkway in the Pinelands National Reserve include a Regional Growth Area, a smaller Forest Area (mostly undeveloped, wetland areas), and a Rural Development Area (along the Lacey-Ocean boundary).

The Pinelands Commission has been implementing the Plan in Lacey Township since July 1982. While Lacey is technically a nonconforming municipality, township and Commission representatives have met on numerous occasions to discuss alternative land use plans for Lacey's Pinelands Area. One major conformance issue involves the township's desire to designate a Regional Growth Area in at least a portion of the Pinelands Area adjacent to the Parkway. The township contends that additional development opportunities must be provided west of the Parkway in order to accommodate its growth needs and maintain its tax base. Lacey officials assert that the Pinelands Protection Act and Plan have substantially affected the township's financial structure. The Commission's fiscal impact study found, on the contrary, that the CMP had a minimal impact on the township's ratable base.

The map which the township initially submitted to the Conformance Subcommittee in May 1982 proposed a Regional Growth Area designation that included much of the Forest Area south of Lacey Road and adjacent to the Parkway, Preservation Area lands near the Parkway, and a 1,000 foot strip along Lacey Road. The subcommittee suggested the alternative of redesignating the Forest Area in the vicinity of the Parkway interchange as a Rural Development Area, zoning the northern sector for desired commercial and industrial uses, and creating a Municipal Reserve in much of the remainder. In exchange, the original Rural Development Area would become a Forest Area. The subcommittee rejected the township's

Area (1,220 acres). Indian Mills was designated a Pinelands Village, with the boundaries to be established by the township during the conformance process. Shamong's population rose from 774 in 1960 to 1,318 in 1970. It more than tripled during the 1970's to reach a 1980 population of 4,537.

Throughout 1981 and the first half of 1982, township representatives met frequently with the Conformance Subcommittee and the Commission staff to discuss conformance issues and present revised management area boundaries in mapped form. The primary issues identified by the township are the need for larger, higher density growth areas; a desire to benefit local farmers by allowing more non-agricultural related development and/or a local TDR program which would supplement the Pinelands Development Credit program; and a desire for more commercial development. During the formulation of the draft CMP in 1980, township officials expressed a similar desire for greater development in agricultural areas. They also suggested that developable land in the Preservation Area be subdivided for new residences and that a "grandfather" clause for all Pinelands Area landowners be included in the Plan.

The most recent contact between the township's planning consultants and the Conformance Subcommittee involved the review of a revised management area map. This was the fifth map that Shamong officials had presented to the subcommittee for review. Previously the subcommittee had agreed to expand the Regional Growth Area around Oak Shade Road, to increase the Rural Development Area east of Route 206, and to consider the designation of two areas representing the Village of Indian Mills. A notable feature of this map was an additional request for an expanded Regional Growth Area which the subcommittee indicated would be more appropriate as a Municipal Reserve. The subcommittee also indicated that since many management area changes had already been agreed to, and since a great deal of other work was necessary to complete the conformance process, the township should consider the management area boundaries as established and proceed with the development of a land use plan.

Subsequent to this meeting the Commission staff met with Shamong's planning consultant to develop unit allocations for the various zones to determine how a supplemental credit transfer program might work. Shamong's planning board attorney previously indicated that Shamong would wait until Tabernacle's conformance process was completed before completing its revisions.

Tabernacle Township

Tabernacle Township is located in south-central Burlington County, in the west-central portion of the Pinelands Area. All of Tabernacle's 47.6 square miles are within the Pinelands Area, and the township is surrounded by the Pinelands municipalities of Southampton, Woodland, Washington, Shamong, and Medford Townships, all in Burlington County. The Pinelands Protection Act designated both Preservation and Protection Areas in the township, with the Preservation Area consisting of approximately 20,850 acres and the Protection Area consisting of 9,420 acres.

The Pinelands Plan designated an Agricultural Production Area of approximately 1,000 acres in Tabernacle's portion of the Preservation Area, leaving the remaining 19,850 acres in the Preservation Area District. The township's Protection Area contains the following land management areas: Regional Growth Area (2,240 acres), Rural Development Area (2,405 acres), Agricultural Production Area (4,000 acres), and Forest Area (775 acres). The township's historic center was also designated a Pinelands Village, with the boundaries to be established by the township during the conformance process. Tabernacle's population grew rapidly during the last decade. After adding less than 500 people in the 1960's, Tabernacle's population tripled from 2,103 in 1970 to 6,236 in 1980.

During the early part of 1981 the township made rapid progress on its conformance revisions. In fact, Tabernacle was one of the first municipalities to revise its management area boundaries so that a land use plan could be developed. Because of its progress, Tabernacle was one of the municipalities for which the Commission staff prepared draft land use ordinances incorporating Pinelands Plan requirements. While this provided the staff with valuable experience in working with a variety of ordinances, the township and staff did not agree on the use of these amended ordinances.

growth proposal for the Preservation Area. Discussions since the summer of 1982 have centered on determining the specific configuration and timing of this suggested alternative.

Another topic of discussion has been the delineation of Bamber Lake Village. The township and subcommittee reached general agreement on a line in early 1982. The Commission is, in fact, using this line in its administration of the Plan. Recently, the township requested a revision in the Bamber Village line. The subcommittee reviewed one tentative proposal and informed the township that it would find that proposal acceptable should the township formally request it. Upon receiving the township's request, the Commission would use the revised Village line in reviewing development applications.

South Toms River Borough

South Toms River Borough is located in north-central Ocean County, in the northeastern part of the Pinelands Area. Adjacent municipalities include Dover Township to the north and east, Berkeley Township to the north and west, and Beachwood Borough to the south and east. The borough's total land area is 1.2 square miles of which 360 acres (47 percent) lie within the Pinelands Area. Approximately 380 acres are within the Pinelands National Reserve. The Pinelands Area line is the Garden State Parkway and Route 9 on the east and the abandoned Penn Central right-of-way on the north. This accounts for approximately 20 acres being in the the National Reserve but outside the Pinelands Area.

South Toms River is approximately 70 percent developed, with the predominant land use being single family residential. The borough grew rapidly between 1950 and 1970 (492 to 3,981 persons). Since 1970 development activity has been very light, and the borough has experienced a slight decrease in population. This may be attributable to the lack of large, developable tracts and the fact that much of the vacant land is adjacent to or near the borough's landfill.

The Pinelands Comprehensive Management Plan designates the entire Pinelands section as a Regional Growth Area. The density assigned by the CMP is 3.5 dwelling units per acre which is similar to the borough's zoning for this area. The entire borough is served by a recently completed municipal sanitary sewer system.

South Toms River has been involved with conformance in some form since early 1981. In March 1981 the borough signed a contract for a Pinelands planning grant with the intent to begin the preparation of a master plan and revised land use ordinances. Later that year, the Commission staff provided technical assistance by preparing a natural resources inventory for the borough's Pinelands Area (dated January 1982). In July 1983 the South Toms River planning board adopted a master plan which included a Pinelands Area plan. The planning board attorney was instructed to prepare a new land use ordinance for the borough which incorporated Pinelands Area requirements. The draft was referred by the planning board to the borough council for its review in the fall of 1983.

While no specific conformance-related issues have been raised by local officials, the borough's progress in complying with the Pinelands Protection Act has been slow and limited. There are a few possible explanations for the borough's nonconforming status. The Pinelands Plan affects the borough very little since the area is predominantly developed, is designated a Regional Growth Area, and is totally sewered. Furthermore, development activity is almost nonexistent. Since the inception of Pinelands regulations in February 1979, only four development applications have been received for property within the borough. These applications have involved the construction of one single family home, additions to an existing church, a commercial use, and the continued use of the borough's landfill. Another possible explanation relates to the fact that the borough has made no revisions in its land use documents in almost 10 years. The local land use ordinance was passed in 1971 and revised only slightly in 1974.

As noted above, the borough has adopted a master plan and is working on a revised land use ordinance. The borough's intent in preparing these documents is to comply with both the Municipal Land Use Law and the Pinelands Protection Act. The Commission staff has offered to assist borough officials in this effort.

CHAPTER III

DEVELOPMENT REVIEW IN THE PINELANDS

Governmental review of development proposals is borne out of a need to ensure that public land use policies and programs are reflected in projects which propose significant and long term changes in the landscape. Not only have the results of governmental decision making become important, but the process itself has increasingly taken on added significance.

Over the past three years the public has shown an interest in both the process and results of the Pinelands development review system. For this reason, this chapter has been organized into two parts -- the first summarizing the process itself and the second analyzing the results of the decision making.

Permitting Process

The system of land use control has changed noticeably in the Pinelands during the last decade. The Pinelands Environmental Council, although only advisory in nature, introduced an added level of governmental review, and in the latter 1970's the Department of Environmental Protection adopted the Central Pine Barrens Water Quality Standards. Coupled with these standards was a requirement that all waste water disposal systems proposed within the so-called "Critical Area" receive the department's approval. With the passage of federal legislation in the fall of 1978 which designated the Pinelands as the country's first National Reserve, the first comprehensive steps were taken to incorporate regional issues and concerns in land use decisions rendered by state and local agencies in the Pinelands.

On February 8, 1979, Governor Byrne issued Executive Order Number 71 which established the Pinelands Commission, charged it with preparing a comprehensive plan, and established restrictions on the granting of state permits within the Pinelands. Initially, the issuance of state development-related permits in the Pinelands was subject to the review of a cabinet level committee known as the Development Review Board. In June of that year, with the passage of the Pinelands Protection Act, this development review authority was vested in the Pinelands Commission and extended to include county and municipal permits as well as state permits.

Although commonly referred to as a "moratorium," development permits could still be approved by state, county, and municipal agencies, but only after first receiving the approval of the Commission; the objective being to temporally suspend those development proposals which might significantly impair the resources of the Pinelands while the Comprehensive Management Plan (CMP) was being prepared.

In that period of time, prior to the effective date of the CMP, a total of 11,655 residential units was approved for development; 25,998 units were denied or recommended for denial. Most applications were in Burlington, Atlantic, and Ocean Counties. Slightly more than half of the proposed residential units in Atlantic County were approved (approved: 6,070; disapproved: 5,658). In Ocean County, disapprovals outnumbered approvals seven to one (approved: 1,180; disapproved: 7,461). Burlington County accounted for the third highest number of residential approvals (2,413 units) but also had the largest number of disapprovals — 11,505 units. Camden County was next in volume (approved: 910; disapproved: 396). There were comparatively few applications from Cape May, Cumberland and Gloucester Counties (total approved: 360; total disapproved: 655).

Post-CMP

With the completion of the CMP, its adoption by the Commission, and its approval by the Secretary of the Interior and the Governor, the Commission's role shifted into a new interim phase. As of January 14, 1981, municipalities and counties within the region were granted one

year to bring their master plans and ordinances into conformance with the Plan. During this year the Commission's review responsibilities differed in the Preservation and Protection Areas. As was the case during the Plan's creation, the Commission directly reviewed all applications for development in the Preservation Area.

However, municipalities and counties reassumed the prerogative to initially review and approve development in the Protection Area. In accordance with the Pinelands Protection Act, the Commission received notices of local approvals in the Protection Area and could "call up" for its review any development approval which might not meet the standards of the Comprehensive Management Plan and reverse the local action if necessary.

In addition, Certificates of Filing were required to be issued by the Commission before an applicant could seek local approval of a development project. These certificates do not indicate approval or disapproval of a project, but only the fact that the application for development is complete. This process, although somewhat cumbersome, was deemed necessary to alert the Commission of upcoming projects, ensure that applications were not acted upon locally with insufficient information relating to Comprehensive Management Plan standards, and to serve as an early warning system for applicants and localities of potential inconsistencies that might arise if the project were approved as submitted. Once the Certificate of Filing is issued, the applicant then proceeds to obtain local approval of the proposed project. As discussed in Chapter II, this process was extended beyond the initial year of the Plan in municipalities and counties which were progressing with master plan and ordinance revisions.

Once a municipality or county has had its revised master plan and land use ordinances "certified" by the Commission, it reassumes primary responsibility for reviewing development applications within its jurisdiction. The process of development review within the Preservation and Protection Areas becomes uniform at this point in time.

Although the requirement to receive a Certificate of Filing from the Commission still exists, two notable changes take place. The Commission no longer provides preliminary comments on the acceptability of a proposal since the effect would be to limit or unduly influence municipal or county review prerogatives. (Of course, any municipality or county is welcome to consult with the Commission during its review of a project).

In addition, municipalities and counties were afforded the opportunity of entirely eliminating the "Certificate of Filing" requirement for small development projects. These are projects which consist of four or less residential lots or units, commercial and industrial development on three or less acres of land, or land disturbance involving 5,000 square feet or less. These are defined as "minor development" in the Comprehensive Management Plan. In these cases, the application is filed directly with the municipal or county permitting agency, and a copy is forwarded simultaneously to the Commission. Although the Commission is still put on notice of pending projects, this optional method of filing projects saves applicants a great deal of time.

The Commission still retains the authority set forth in the Pinelands Protection Act to "call up" local approvals if they appear to contravene Comprehensive Management Plan standards or those of the municipal ordinance or county standards which incorporate Comprehensive Management Plan policies. This procedure is identical to that which existed in the Protection Area during the first year of the Comprehensive Management Plan's implementation.

The Pinelands Protection Act authorizes the Commission to adopt rules and regulations that it deems necessary to implement the Comprehensive Management Plan in municipalities and counties whose master plans and land use ordinances have not been approved by the Commission. At the present time, the Commission, pursuant to the Plan, assumes primary review authority in uncertified municipalities and counties. There are currently 15 such municipalities and three counties (see Chapter II) where this occurs.

In these localities, applicants for development approval must first receive a Pinelands Development Approval from the Commission before seeking requisite local approvals. In order to maintain the integrity of Plan standards, municipalities and counties in these cases are limited in the review of applications to matters which are not regulated by the Plan. Three Letters of Interpretation which are discussed later in this chapter elaborate further on these roles and responsibilities.

Not unexpectedly, this has created tension within those towns, and particularly in municipalities with Regional Growth Areas. The Pinelands Plan establishes a uniform density in Regional

Growth Areas and makes no locational distinction for residential, commercial, or industrial uses. Cases have arisen where the Pinelands Commission has approved an application which is not consistent with local objectives regarding residential density and/or the location of the use. The Townships of Egg Harbor and Hamilton have appealed a number of such Commission decisions to the Office of Administrative Law. To date, none of the appeals have been successful. A developer in Galloway Township also went to Superior Court to seek relief from obtaining any municipal approval after receiving a Pinelands Development Approval. However, the court, citing a Letter of Interpretation issued by the Commission, found that municipal approval is still necessary within the constraints imposed by the Pinelands Plan.

Municipalities and counties which have conformed to the Pinelands Plan have been able to successfully tailor the regional standards to local circumstances and resolve most of this tension. Through the conformance process, different zoning districts have been created within Pinelands management areas to segregate varying land uses and to establish differential residential zoning densities so long as the Comprehensive Management Plan's overall density average is maintained.

Clearly, however, there is no easy solution in a township which has not revised its master plan and land use ordinances. Although the Pinelands Commission retains the authority to prepare and adopt a specific zoning ordinance in these cases, it has been the Commission's policy to afford additional time for the municipalities and counties to complete local plans themselves. If, however, these tensions increase and the townships and counties not yet certified continue to ignore the requirements of the Pinelands Protection Act, the Commission may have to reconsider its policy.

Reviewing Public Projects

The Pinelands Protection Act recognized that public as well as private development must be consistent with Comprehensive Management Plan standards to ensure that the resources of the Pinelands are adequately protected.

Since public development proposals are often subject only to the comprehensive review of the authority which is proposing the activity, the Plan provides for direct Commission review of these projects. State and locally sponsored proposals are submitted to the Commission, and a staff review is conducted to determine whether a substantial issue with respect to Plan standards might be raised if the project were to proceed. If no such issue is raised, a Certificate of Conformity is issued by the staff. If an issue surfaces, the project is referred by the staff to the Commission for its review and action.

Federal installations are subject to the same development review standards as any other public development except that they need only submit applications for development that would ordinarily require state or local approval, and they are exempted if the development activity is judged to be critical to their national defense mission.

Other Development Review Functions

In addition to the permitting processes previously described, there are three other development-related functions performed by the Commission which warrant particular attention.

Pre-Application Conferences

The Pinelands Plan encourages applicants to discuss potential projects with the Commission staff before submitting a formal development application. In fact, such a conference is required in some instances (e.g., Letters of Interpretation).

Pre-application conferences are informal meetings between the staff and the applicant to discuss the type of information required for a particular application and Plan standards which might be of particular relevance to the proposed project. It can serve as a useful tool to applicants in the early stages of project design, and it also alerts the staff to upcoming projects.

Initially, pre-application conferences were extremely important since the Plan's standards were new and unfamiliar to many people. The conferences are still useful, particularly in the case of larger projects which require a Certificate of Filing. However, for smaller projects which are filed directly with a municipality or county, it is hoped that applicants will see less of a need to consult with the Commission staff unless exceptional circumstances exist.

Letters of Interpretation

The Commission recognized that the most carefully constructed plans and regulations cannot anticipate every conceivable question and situation and provide precise guidance on that issue. In addition, several provisions of the Plan (most notably the need for a cultural resource survey, the amount of Pinelands Development Credits allocated to a particular piece of property, and the precise extent of wetlands located on a given parcel of land) require individualized evaluations which the regulations themselves could not address.

The Commission thus foresaw the need for a mechanism whereby individuals, organizations, and governmental units could seek specific guidance as to how a Comprehensive Management Plan requirement might apply to a particular situation. This mechanism is included in the Plan and is referred to as a Letter of Interpretation which is issued by the Executive Director. These interpretations do not, in themselves, authorize or permit any development to occur, nor can they be used as a means to modify, abrogate, or waive any requirement of the Comprehensive Management Plan. They do, however, provide a convenient and expedient way for landowners, applicants, government officials, and interested citizens to seek and receive formal clarification of a specific Plan provision as it relates to a potential development proposal while the project is still in its early stages of planning.

Waivers of Strict Compliance

The Pinelands Protection Act conveyed to the Commission the exclusive authority to grant waivers from the standards of the Pinelands Comprehensive Management Plan. The Commission is authorized to do so only upon finding that it is necessary to alleviate extraordinary hardship or to satisfy a compelling public need. Before granting any such waiver, the Commission must also determine that the issuance of a waiver would be consistent with the Pinelands Protection Act and the federal Pinelands legislation and would not result in substantial impairment of Pinelands resources.

Unlike development approvals in municipalities and counties with certified plans and ordinances where the Commission assumes an oversight role, the Commission must by law directly review and issue Waivers of Strict Compliance. As is the case with Letters of Interpretation, waivers do not specifically authorize development to take place; rather, they grant relief from one or more specific provisions of the Plan. Formal development applications which address all of the Plan's requirements, except those waived, must be submitted to the requisite approving authorities after a waiver is received.

A Waiver of Strict Compliance is not binding upon a municipality or county which has received Commission certification of its plan and land use ordinances. Since these localities have incorporated Pinelands Plan standards into their own ordinances, receipt of a Waiver of Strict Compliance from the Pinelands Commission merely enables an applicant to seek a variance from a municipality under the terms of the Municipal Land Use Law or a waiver from a county pursuant to the County and Regional Planning Enabling Act. Although this second level of review may be cumbersome to some applicants, its purpose is to distinguish between regional issues and those concerns important from a local perspective.

As previously mentioned, waivers can be granted on the basis of compelling public need or extraordinary hardship. Unlike the public need waiver which is subject to one set of standards in the Plan, extraordinary hardship may be found to exist in one of several situations.

The first situation is when a certain property is incapable of yielding a reasonable return if used or developed in accordance with Comprehensive Management Plan standards. In cases where the imposition of the Plan's land use or development standards will result in a property being left with no reasonable use options, an extraordinary hardship will be found.

The second situation relates to expenditures made for a particular use or development which is not authorized in the Plan. In these cases, an extraordinary hardship can exist if an applicant expended money on a project in reliance on a valid municipal development approval which was issued before February 8, 1979 (the date which regional development standards were first put into place in the Pinelands). Relief from Plan standards can be granted only to the extent that a minimum reasonable rate of return on those expenditures is provided. These standards of review have been the subject of a Letter of Interpretation which is discussed in more detail later in this chapter.

It is important to note that this hardship evaluation is predicated upon a "valid" municipal development approval. This determination flows from the Municipal Land Use Law and is based upon the period of time that an applicant is protected against changes in municipal zoning after a local development approval is issued. Considering the adoption of the Pinelands Plan and the period afforded municipalities to revise their master plans and zoning ordinances, this period for consideration will lapse on January 14, 1984. In simpler terms, an applicant who has not applied to the Pinelands Commission for a waiver by that date cannot reasonably claim that a municipal development approval obtained before February 8, 1979 is still valid. It is also unreasonable to claim that the project proceeded in good faith reliance on an approval which is almost five years old. The only exceptions to this rule would be those few cases, if any, where the period of protection specifically granted under the terms of the Municipal Land Use Law would extend beyond January 14, 1984.

The third situation is similar to the second. It covers projects which had a valid *final* subdivision approval in effect on February 7, 1979 and provides that relief can be granted for development on lots of at least one acre in size if the project site is not served by a central sewer system. This provision was in effect for only the first two years of the Plan. After that, any such project could be considered only on the basis of expenditures made in reliance upon the subdivision approval.

Although the method of considering and evaluating waiver requests has been a difficult one for applicants, government officials, environmentalists, and builders to understand, the time is fast approaching when the most difficult part -- that of dealing with expectations which existed before the Pinelands Plan -- will end.

Reconsideration of Decisions

Any person who is aggrieved by a decision made in the Pinelands development review process has an opportunity to seek reconsideration of that decision. A rather extensive procedure for administrative appeal has been established for that purpose.

Since the 15 member Commission is vested with the final administrative decision making authority, the appeal procedures have been established to preserve the Commission's impartiality to the greatest extent practical. Consequently, most initial decisions on applications are made by the Executive Director. This gives an aggrieved party the opportunity to seek reconsideration administratively (through appeal to the Commission itself) rather than be faced with the prospect of formal litigation through the courts.

The initial decisions made by the Executive Director include development approvals and disapprovals, Letters of Interpretation, and Waivers of Strict Compliance. Any of these decisions may be appealed by an interested person, in which case a formal hearing is conducted by the Office of Administrative Law. The Administrative Law Judge's report and recommendation is then presented to the full Commission for action. The Commission may affirm, reject, or modify the Administrative Law Judge's (ALJ) recommendation within 45 days. If the Commission does not act within that period, the Administrative Law Judge's recommendation automatically takes effect. There are two exceptions to this process--public development projects and cases where the Commission reviews local approvals in certified municipalities and counties.

In the case of public development proposals, the Executive Director refers those that raise substantial issues with respect to Plan standards to the Commission for its direct consideration. Once the Commission renders a decision on these projects, no further administrative relief is available; however, judicial review can be sought.

If the Executive Director determines that a local development approval should be reviewed by the Commission, he so notifies the parties to the action. In the case of preliminary approvals, the applicant or local approving agency may request a hearing before the Office of Administrative Law before the Commission reviews and acts on the project. In the case of final development approvals, the Pinelands Protection Act sets specific time periods in which the Commission must act and requires that a public hearing be held. In lieu of a public hearing which is conducted by the Executive Director, the applicant whose project is being reviewed may request a hearing before the Office of Administrative Law (OAL). Since the time required for an OAL hearing will almost always exceed the time limits imposed by the Pinelands Protection Act, the applicant must waive those time limits if an OAL hearing is requested. Once

the OAL hearing or public hearing is held, the Commission then acts to affirm, reject, or modify the local development approval. Virtually all staff decisions referred to the OAL have been upheld by the OAL and the Commission.

After the Commission acts on any application, further administrative review is exhausted; however, an interested party may seek judicial review of that action before the Appellate Division of the Superior Court.

The First Three Years

As is evident from the preceding discussion, the development review procedures in the Pinelands are multi-faceted. The process is also still in a transitional state, with certified municipalities and counties gradually gaining experience working with new procedures and standards. Considering all of these factors, the system has worked very well. Nevertheless, it is by no means perfect, and several observations can be made based upon our experience to date:

- The "Certificate of Filing" requirement is often confusing to applicants and municipalities. They are often viewed erroneously as approvals or disapprovals from the Commission. Although many municipalities now better understand the distinction, it is still a source of confusion to applicants
- Many people feel that too much information is required from applicants. This not only adds to the costs of a project, it also adds time. There are others who feel that too little information is sought
- Additional time is added to what many people already consider a lengthy and complicated development permitting process. To some degree, the volume of work and lack of automation contribute to the frustration felt by local officials, applicants, and the Commission's staff
- The multiplicity of permits required (municipal, county, state, and federal in some cases) coupled with Commission intervention in those processes make the entire system complicated. The need to better coordinate governmental reviews is also seen as an absolute necessity by many involved parties
- Some municipalities and applicants would prefer to receive Commission decisions before a proposal is considered locally. This may be more efficient in some cases but would undoubtedly add more time to the process and also greatly reduce municipal review prerogatives. It is also not authorized in the Pinelands Protection Act
- Other municipalities would prefer to have the authority to grant waivers from Pinelands standards (as they do for variances from their own standards) subject to Commission review. To some degree this request is based upon the difficulty municipalities experience in determining whether a particular variance does or does not relate to a Pinelands standard. Of course, the Pinelands Protection Act requires that any waiver from Pinelands Plan standards must be granted by the Commission
- Some municipalities do not have the capability or the inclination to comprehensively review development proposals according to Pinelands development standards. In large part, this contributes to the feeling that the Commission should approve or disapprove development proposals before local review. It also speaks to the need for greater coordination between the Commission and municipalities so that we can supplement their capabilities where necessary
- On a related matter, the Commission does not have the legal authority to impose fines when a violation is noted

These observations are not meant to be all-inclusive. They do cover, in large part, many of the broad concerns expressed by governmental officials, applicants, and interested groups, but many more will undoubtedly be identified as the Commission embarks upon its review of the Plan.

Although divergent views exist in each of these areas and others may be beyond the Commission's legislative authority to address, it is evident that the development review process, as well as the land use standards of the Plan, must be continually evaluated to ensure efficiency and effectiveness.

Development Actions Under The CMP

The Pinelands Commission has begun a comprehensive study of its information management needs and the potential for automation. A major focus of this study is the Pinelands development review process. An assessment will be made of the need for an automated project management (tracking) system and automated data files to permit statistical analysis of historical information about permitting decisions.

Although the study is in its early stages and the development and implementation of a comprehensive automated management information system is still some time away, the Commission, in cooperation with the Delaware Valley Regional Planning Commission, initiated a preliminary computer assisted project to analyze Pinelands permitting decisions. Although the project was primarily undertaken to assess the needs and problems associated with automation, the results of this preliminary work are nevertheless informative and provide useful analyses.

In the past two and one-half years (from January 14, 1981 to June 30, 1983), some 4,054 project applications were received by the Pinelands Commission. This equates to roughly 31 applications per week and is indicative of the workload with which the 10 member development review staff must cope. Not all applications were acted upon, however, and approximately 30 percent were withdrawn before any formal action was taken. It is difficult at this point in time to determine why such a large proportion of the applications are withdrawn, but it has been observed that the vast majority of withdrawals are requested by applicants rather than withdrawn from consideration by the Commission because requested information was not made available.

It is quite possible that this occurs because applicants are in the very early stages of project planning and, after receiving preliminary indications regarding its consistency with the Plan at pre-application conferences and other discussions with the staff, they do not wish or are not ready to prepare and submit all of the required information necessary for a formal decision. It is also likely that during those staff discussions many applicants realize that their projects are not generally consistent with the Pinelands Plan and stand little chance of receiving the desired approvals. Rather than proceeding through the entire review process, these applicants may decide to withdraw their application.

An additional 29 percent of the applications may be classified as "in process." This category includes those projects which have not yet requested or received a formal permitting decision but have received Letters of Interpretation or Certificates of Filing. Undoubtedly, some of these projects have since been abandoned by the applicants, but many may yet be active. Applicants may not have submitted the projects to local authorities for review yet because of financial or design reasons. Or the projects, once submitted, may still be under local review. Since the Commission only receives notices for projects which are approved by a municipality or county, it is also possible that some of these projects may have been disapproved locally; however, the number would be expected to be relatively small.

The remaining applications (more than 1,600) have received some sort of formal decision in the form of an approved or disapproved Waiver of Strict compliance and/or a development approval or disapproval.

For purposes of further analysis, it becomes necessary to evaluate the various types of actions taken on these applications rather than focusing on the projects themselves. Any given project may involve several separate actions; thus, the sum of all actions would not equal the number of applications. The reader is also cautioned again that the statistical information

presented here is preliminary (approximately 90 percent complete) and, although suitable for purposes of regional trend analysis, is not intended for use as a complete set of tabulations.

As Table 3.1 indicates, approximately 96 percent of the actions taken on private development and 100 per cent of the public development proposals have been approved.

Table 3.1
Pinelands Commission Actions Taken on Applications
(1/14/81-6/30/83)

	Approved Actions	Disapproved Actions	Total Actions ¹
Privately sponsored development	924	34	958
Publicly sponsored development	139	0	139
Waivers of Strict Compliance	305	226	531

¹ This does not include Certificates of Filing or Letters of Interpretation issued.

These percentages do not tell the entire story, however. Virtually all regional regulatory agencies report relatively high project approval rates, yet the statistics do not reveal the number of *potential* projects which were abandoned or modified as a result of the adoption of the new land use requirements. Neither do these tabulations reflect the number of proposals submitted to the Commission for review and subsequently withdrawn because the applicant concluded that approval was unlikely. In rather simple terms, it is to be expected that the vast majority of applicants submit proposals which they believe stand a reasonable chance of being approved.

These figures also do not account for changes made in project design during the review process to achieve consistency with Plan standards nor conditions which are imposed upon the approvals.

Action on Waivers of Strict Compliance may, in fact, be a better indicator of actual development expectations and the consistency of those expectations with Comprehensive Management Plan objectives. Slightly less than half of all waivers requested were disapproved, and many of those that were approved required substantial redesign before relief from various Plan standards was obtained. Although a substantial number of waivers were requested in the first two and one-half years, it is also noteworthy that they accounted for slightly less than one-third of all actions taken. With the rather drastic change that occurred in the region's long-standing land use requirements in 1981, one might have expected a larger number of waiver applications. A more detailed discussion of Waivers of Strict Compliance is presented later in this chapter.

Commission Role in Decision Making

The standards upon which development proposals are judged and the results of those decisions are not the only means to evaluate the success of the development review process. The traditional role of local government in that process and the effect of Commission intervention is also of great interest and concern to many people. The authors of the Pinelands Protection Act and the Pinelands Commission itself envisioned a process that, while disruptive to traditional roles at the outset, would ultimately rely on local government to reassume its primary decision making role and thus implement the Plan. The Commission, on the other hand, would assume a less prominent role while maintaining oversight responsibility. Key determinants here are the extent to which the Commission has directly assumed decision making prerogatives from local governments and the extent to which the Commission has otherwise questioned local decisions and overturned them.

Table 3.2 clearly indicates that these initial expectations are still well founded. Even though municipalities have had a limited period of time in which to act directly on applications (due to development review responsibilities changing according to the certification status of individual towns), more than 58 percent of all development decisions for residential, commercial, and industrial development were approved at the local level. Only 13 of these local approvals, or 2.5 percent, were called up and reviewed by the Commission.

Table 3.2
Level of Decision Making on
Development Actions¹
(1/14/81-6/30/83)

Action		Residential	Commercial & Industrial
	No. of Actions	No. of Units	No. of Actions
Development Approved			
Direct Commission Action	285	1,424	67
Municipal Approval-No Commission Intervention	391	3,235	101
Municipal Approval-Commission Review and Approval	2	3	1
Total Approved	678	4,662	169
Development Disapproved	22	32	1
Direct Commission Action			
Municipal Approval-Commission Review and Disapproval	7	8	3
Total Disapproved	29	40	4

¹ Forestry, resource extraction, and publicly sponsored development are reflected in subsequent tables.

As the number of municipalities and counties with certified plans and ordinances has increased, so has the percentage of projects which are reviewed locally. This trend will undoubtedly continue, and it is reasonable to expect that the percentage of those local decisions reviewed by the Commission will further decrease as local officials become better acquainted with the standards and requirements of their newly revised ordinances.

Residential, Commercial, and Industrial Development

Land management areas were identified in the Plan on the basis of a host of natural, cultural, and physical characteristics and were designed in large part to redirect the patterns of development which had emerged in the recent past. This development, most notably residential, commercial, and industrial, was generally thought to represent the largest, long-term threat to the environmental integrity of the Pinelands if not properly managed and directed.

The Preservation and Forest Areas, being largely undeveloped, were intended to remain relatively undisturbed and available for non-intensive, traditional land uses. The Agricultural Production Areas, representing those relatively large pockets of land devoted to active farming, were also intended to be protected from incompatible land uses.

Four management areas, Rural Development Areas, Villages, Towns, and Regional Growth Areas were identified for gradually increasing levels of residential, commercial, and industrial development. The intensity of the anticipated development in each of these areas was predicated not only upon the existence of significant natural resources but also on the existing patterns of land use, supportive infrastructure and services, and land market trends. Consequently, Rural Development Areas were slated for relatively low density residential development and non-intensive types of commercial and industrial development. Regional Growth Areas, at the other end of the spectrum, were intended to accommodate the lion's share of the region's housing and associated development.

Lastly, the Military and Federal Installation Areas represented those federally owned lands where the continuation of relatively long standing institutional and military activities would occur.

Tables 3.3 and 3.4 array development approvals and disapprovals by management area and indicate that the Plan's objectives for the various management areas are being met in practice. Eighty-five percent of all new residential development and 46 percent of commercial and industrial projects have been approved within Regional Growth Areas. In view of the fact that Regional Growth Areas comprise approximately eight percent of the Pinelands Area, these statistics become more revealing. When Regional Growth Area development is combined with Towns, Villages, and Rural Development Areas, the share of new residential development increases to 96 percent and commercial/industrial development increases to 81 percent.

It is noteworthy that the commercial and industrial development category includes expansion of existing businesses as well as changes in the use of existing structures. Within this context, it is not surprising that some activity, although a relatively small proportion, has occurred within the Preservation Area and Forest Area Districts.

Table 3.3
Types of Development Approved
by Land Management Area
(1/14/81 - 6/30/83)

Land Management Areas	Residential		Commercial/Industrial Applications
	Applications	Units	
Preservation	41	57	8
Forest	52	59	9
Agricultural Production	72	90	15
Special Agricultural Production	0	0	0
Rural Development	113	254	19
Regional Growth	276	3,974	79
Towns & Villages	124	228	39
Military/Federal	0	0	0
Total	678	4,662	169

Table 3.4
Types of Development Disapproved
by Land Management Area
(1/14/81 - 6/30/83)

Land Management Areas	Residential		Commercial/Industrial Applications
	Applications	Units	
Preservation	7	11	0
Forest	5	6	1
Agricultural Production	4	6	0
Special Agricultural Production	0	0	0
Rural Development	2	4	1
Regional Growth	4	5	2
Towns & Villages	7	8	0
Military/Federal	0	0	0
Total	29	40	4

As Tables 3.5 and 3.6 indicate, not only is this level of development associated with particular management areas, it can also be identified with specific municipalities. Ten municipalities accounted for almost 82 percent of all residential development approvals, and 60 percent is attributable to three Atlantic County towns. It is also noteworthy that two townships (Hamilton and Medford) had a greater share of approved residential units than applications; thus indicating that relatively larger developments are being planned there than in other Pinelands municipalities. The opposite trend is most notable in Galloway, Hammonton, Pemberton, and Waterford where it appears that a relatively higher share of residential applications are for single housing units.

Table 3.5
Municipalities with Highest Residential Development Activity
(1/14/81 - 6/30/83)

Percentage of Total Regional Development Approvals

Municipality	Applications	Units
Hamilton Township	8.1%	46.1%
Egg Harbor Township	11.1%	10.6%
Winslow Township	4.0%	4.3%
Monroe Township	3.4%	4.3%
Medford Township	1.5%	3.9%
Galloway Township	10.1%	3.4%
Hammonton Town	8.8%	3.0%
Pemberton Township	13.4%	2.5%
Waterford Township	4.5%	1.7%
Franklin Township	1.8%	1.7%
Regional Share	66.8%	81.5%

Table 3.6
Municipalities With Highest Commercial/Industrial
Development Activity
(1/14/81 - 6/30/83)

Municipality	Percentage of Total Regional Development Applications Approved
Hammonton Town	19.4%
Egg Harbor Township	16.5%
Medford Township	9.4%
Galloway Township	8.2%
Hamilton Township	4.7%
Manchester Township	4.7%
Monroe Township	4.1%
Winslow Township	3.5%
Tabernacle Township	2.9%
Regional Share	73.5%

Conversely, very little or no residential development activity has occurred in the Pinelands Area portion of the following 23 municipalities (excluding those four towns whose total Pinelands Area is in public ownership):

Berlin Borough	Berkeley Township	Plumsted Township
Berlin Township	Little Egg Harbor Township	Lakehurst Borough
Dennis Township	Ocean Township	Lacey Township
Woodbine Borough	Corbin City	Upper Township
Vineland City	Eagleswood Township	Southampton Township
Barnegat Township	South Toms River Borough	Medford Lakes Borough
Beachwood Borough	Stafford Township	Evesham Township
		Port Republic City
		Egg Harbor City

These 23 municipalities collectively account for only .5 percent of the total regional residential development. Two of these towns (Southampton and Evesham) have extremely large residential projects which have received Waivers of Strict Compliance but have yet to obtain actual development approvals. While some of the other towns were substantially developed before the Pinelands Plan was adopted, and still others include relatively small land areas within the Pinelands, it is clear that a very pronounced difference exists in development activity within Pinelands jurisdictions.

There is also a distinct correlation between residential development and commercial/industrial proposals. Of the nine most active townships in terms of commercial and industrial development approvals, seven are also among the most active in residential development. As is also the case with residential development, an extremely large percentage (73.5 percent) of the regional approvals for commercial and industrial development occurs in relatively few towns.

The relative lack of development activity in the Preservation, Forest, and Agricultural Production Areas is also consistent with the land management objectives of the Comprehensive Management Plan. Less than one-half of one percent of the regional development approvals were located in these management areas. It is also noteworthy that approximately 22 percent of those residential development approvals occurred there only because Waivers of Strict Compliance had been approved. This is almost twice the rate which occurs in the other management areas.

While the spatial distribution of approved development is informative, the tabulations of residential, commercial, and industrial development which has been disapproved do not appear to indicate any particularly significant trends at this time.

Forestry

Forestry is a longstanding enterprise in the Pinelands. With increasing markets in firewood and other forest products, the intensity of use may well be increasing, although the lack of detailed historical records makes trend analysis difficult. Since the Pinelands Plan came into effect, however, 42 such applications have been approved and one has been denied.

Table 3.7 shows that nearly 50 percent of the acreage approved for forestry is in the Preservation Area. The second most active management area was the Forest Area. Forestry is expected to have a special significance for landowners in these areas since it presents an alternative land use to residential development. Residential land use has been constrained both quantitatively and geographically in these land management areas, and landowners may find that forestry represents a viable income-producing alternative to residential development.

Beyond these two management areas, it is difficult to draw any firm conclusions. One might have expected that forestry would have occurred at a relatively higher rate in Agricultural Production Areas than was the case. Regional Growth Areas, on the other hand, had a relatively higher rate than might have been predicted; however, this might be indicative of a more temporary land use pending the initiation of future residential and commercial development.

It is also interesting to note that the number of applications are significantly larger in Forest Areas than in the Preservation Area, even though the acreage is less. This indicates that operations tend, on the average, to be smaller outside the Preservation Area.

As Table 3.8 indicates, forestry activities are concentrated in relatively few townships, yet these municipalities are dispersed throughout the region. Seven municipalities accounted for 71 percent of the applications and 90 percent of the approved acreage. Woodland Township alone had over 4,200 acres approved for forestry.

Table 3.7
Approvals and Disapprovals for Forestry
by Land Management Area
(1/14/81 - 6/30/83)

Land Management Area	Approvals		Disapprovals	
	Applications	Acres	Applications	Acres
Preservation	17	4,519	1	83
Forest	21	2,506	0	0
Agricultural Production	2	310	0	0
Special Agricultural Production	0	0	0	0
Rural Development	6	1,461	0	0
Regional Growth	6	753	0	0
Towns/Villages	0	0	0	0
Military/Federal	0	0	0	0
Total	42	9,549	1	83

Table 3.8

**Approvals and Disapprovals for Forestry
by Municipality
(1/14/81-6/30/83)**

Municipality	Approvals		Disapprovals	
	Applications	Acres	Applications	Acres
Lacey	4	430	0	0
Woodland	3	4,272	0	0
Vineland	4	600	0	0
Pemberton	9	792	0	0
Franklin	1	16	0	0
Maurice River	1	5	0	0
Folsom	2	80	0	0
Upper	2	193	0	0
Estell Manor	4	675	0	0
Hamilton	3	1,042	0	0
Stafford	3	742	0	0
Medford	2	321	0	0
Barnegat	1	80	0	0
Galloway	1	228	0	0
Jackson	1	8	0	0
Dennis	1	65	0	0
Shamong	0	0	1	83
Total	42	9,549	1	83

Resource Extraction

Resource extraction in the Pinelands is primarily the mining of sand and gravel for private commercial enterprise. It is recognized that mining is a depletive activity of a non-renewable resource. For this reason, restoration of these sites throughout the Pinelands is required, and mining has been limited in the Preservation Area. No new operations are permitted there, but those operators who already possessed state-issued mining permits prior to the Comprehensive Management Plan were allowed to continue mining. Outside the Preservation Area, municipalities are given the option of permitting new operations.

As Table 3.9 indicates, there are 14 existing operations within the Preservation Area which were permitted, and these account for 45 percent of all the acreage approved for mining throughout the Pinelands. It should be noted that one of the 14 was initially disapproved by the staff, appealed by the applicant, and subsequently approved by the Commission upon the recommendation of the Office of Administrative Law.

In the remainder of the Pinelands, 21 operations were approved, involving 3,957 acres. The largest proportion of that (about 60 percent) occurs in the Rural Development Area; next in quantity is the Forest Area, followed by the Regional Growth Area.

Locationally, resource extraction operations seem to be most prolific in a few municipalities. As Table 3.10 indicates, five townships accounted for 60 percent of the applications approved and 72 percent of the acreage to be mined. It is perhaps significant to note that three municipalities (Lacey, Woodland, and Hamilton) are also among the most active towns in terms of approved forestry activities.

In terms of future mining activities in the Pinelands, it is doubtful that any new operations will be permitted within the Preservation Area. As reported in Chapter VII, the survey conducted by the Department of the Interior (DOI) identified no new mining operations other than those that have been permitted (with the exception of the one which was approved after review by the

Office of Administrative Law). The DOI did report a higher acreage figure, but those earlier estimates did not account for acreage excluded from mining due to on-site environmental constraints.

Outside the Preservation Area, new operations are expected in the future, although not to the extent reported in the DOI survey. Since the survey included areas outside the Pinelands Area, did not account for municipally imposed constraints, and reflected gross estimates, it appears doubtful that those projections will, in fact, occur.

Table 3.9
Approvals and Disapprovals for Resource Extraction
by Land Management Area
(1/14/81 - 6/30/83)

Land Management Area	Approvals		Disapprovals	
	Applications	Acres	Applications	Acres
Preservation	14	2,967	0	0
Forest	8	1,311	0	0
Agricultural Production	0	0	0	0
Special Agricultural Production	0	0	0	0
Rural Development	9	2,350	0	0
Regional Growth	4	296	0	0
Towns/Villages	0	0	0	0
Military/Federal	0	0	0	0
Total	35	6,923	0	0

Table 3.10
Approvals for Resource Extraction
by Municipality
(1/14/81 - 6/30/83)

Municipality	Applications	Acres
Lacey	6	1,702
Little Egg Harbor	1	200
Woodland	5	785
Barnegat	4	681
Jackson	3	1,485
Hamilton	2	424
Maurice River	3	426
Buena Vista	2	585
Manchester	1	30
Estell Manor	1	24
Winslow	1	84
Franklin	1	103
Waterford	1	27
Mullica	2	100
Upper	1	192
Monroe	1	74
Total	35	6,923

Public Development

To date, all publicly sponsored development applications have been approved in the Pinelands. Although there were no disapprovals, several applications which were unlikely to be approved were withdrawn from Commission consideration.

As Table 3.11 indicates, almost half of the public development has been sponsored by municipal government, and much of that has been located in Regional Growth Areas, Towns, and Villages. It is no coincidence that much of the service-related development (schools, municipal office buildings, etc.) is being located in the primary areas of population.

Conversely, a fairly large proportion of county and state level development has been located in the Preservation Area District. A good deal of the state development is associated with the high percentage of state owned parks and forests there and represents state forestry activities and park facility renovation or development. Much of the county sponsored development is road and bridge maintenance.

Several types of publicly sponsored development in the Pinelands are noteworthy. They include five correctional facilities (three state sponsored and two county sponsored) and 11 projects to provide central water and sewer service.

Within the regional context of development in the Pinelands, publicly sponsored undertakings have generally not been very significant. Although individual projects (such as the Cape May County landfill) are indeed significant, the total number of proposals (approximately eight percent of the regional total) and the general type of development proposed (high proportion of maintenance type work) generally have less substantial impacts than is the case with other types of development.

Table 3.11
Approved Public Development¹

Land Management Areas	Applications by Government Level			
	Federal	State	County	Municipal
Preservation	0	13	9	2
Forest	0	2	2	3
Agricultural Production	0	0	0	6
Special Agricultural Production	0	0	0	0
Rural Development	0	7	1	6
Regional Growth	1	3	6	29
Towns & Villages	3	0	5	16
Military/Federal Installation	11	1	1	0

¹ Twelve additional projects are located in more than one land management area. These were mainly road improvement projects.

Waivers of Strict Compliance

A total of 305 projects have received Waivers of Strict Compliance since the Pinelands Plan took effect. As Table 3.12 indicates, the vast majority of these waivers have been granted for residential projects, and those projects account for some 12,350 dwelling units. Conversely, 224 waiver requests were disapproved, accounting for 5,704 residential units (Table 3.13).

In terms of the Pinelands land management areas, the greatest number of waiver approvals, both in terms of applications and units, were issued for projects within Rural Development Areas. Three projects, Kings Grant in Evesham, Leisuretowne in Southampton, and Davenport Cluster in Berkeley, accounted for 8,470 of the 9,200 units approved there.

The second largest number of residential units approved through waivers occurs in Forest Areas. Here again, a large proportion (90 percent) is represented in three projects.

In fact, this trend exists for the region as a whole as Table 3.14 indicates. Of the total residential units approved by waivers throughout the Pinelands, 92 percent are attributable to 12 projects (or only four percent of the residential waiver applications approved).

These larger residential projects received waivers under the "extraordinary hardship" test which recognizes valid municipal development approvals issued prior to the Pinelands Plan and expenditures made by the applicants in reliance upon those approvals.

This trend will not continue, however. As mentioned earlier, the period during which applicants may reasonably claim that a valid municipal development approval still exists and that the project proceeded in good faith reliance on that approval will not extend beyond January 14, 1984. In fact, it is estimated that no more than 2,000 additional residential units will be approved under this provision of the Plan for applications received from July 1, 1983 to January 14, 1984.

The other "extraordinary hardship" test relates to properties that are not capable of yielding a reasonable rate of return if used or developed in accord with the Plan. Generally, these cases involve relatively small parcels of land which do not meet residential lot size requirements and where other land use alternatives available under the Comprehensive Management Plan may be limited. It is estimated that these types of waiver requests account for approximately 75 percent of the total applications, yet they involve only two percent of the residential units approved by waivers. This is not unexpected since, where such an extraordinary hardship does exist, exemption from density limitations to permit one home on the parcel is usually the minimum relief necessary to alleviate the hardship. As is evident, these waivers are most often granted to individual lot owners for the development of a single family residence.

Unlike the large projects which were granted relief because of prior municipal approvals, requests for waivers on the basis of reasonable use of the property will continue. However, the number is expected to be relatively low based upon past trends.

Waivers of Strict Compliance do not in and of themselves constitute development approvals, and the number of waivers granted may not be indicative of development which is now occurring throughout the region. Indeed, a preliminary analysis indicates that a relatively small proportion (32 percent) of projects receiving waivers have also received development approvals. The significance of this is not apparent at this time, however. It may be that some of the larger projects still require further design (possibly as a result of conditions attached to the waivers by the Commission), certain projects may have been deferred by the applicants because the conditions are unacceptable to the applicants (such as those which require the use of alternative septic systems), or a host of other non-Pinelands related factors. Because of this rather significant variation, however, it may be worthwhile to more closely monitor the situation and, if the trend continues, attempt to determine its causes.

The one remaining eligibility criterion for Waivers of Strict Compliances relates to compelling public need. Although the number of these waivers is extremely low, it is noteworthy that one such waiver did lead to the eventual approval of a new county-wide landfill in Cape May County.

Table 3.12
Waivers of Strict Compliance
Approved by Land Management Area
(1/14/81 - 6/30/83)

Land Management Area	Types of Development			Public Applications
	Residential Applications	Land Units	Commercial/Industrial Applications	
Preservation	26	43	3	1
Forest	53	1,355	0	0
Agricultural Production	36	757	1	0
Special Agricultural Production	0	0	0	0
Rural Development	84	9,200	2	0
Regional Growth	63	956	3	0
Towns and Villages	31	39	1	1
Military/Federal	0	0	0	0
Total	293	12,350	10	2

Table 3.13
Waivers of Strict Compliance
Disapproved by Land Management Area
(1/14/81 - 6/30/83)

Land Management Area	Types of Development			
	Residential Applications	Units	Commercial/Industrial Applications ¹	Public Applications
Preservation	15	37	0	1
Forest	40	4,912	0	0
Agricultural Production	26	40	0	0
Special Agricultural Production	1	1	0	0
Rural Development	74	464	0	0
Regional Growth	52	125	0	0
Towns & Villages	16	125	0	0
Military/Federal	0	0	0	0
Total	224	5,704	0	1

¹ One Waiver of Strict Compliance associated with a forestry project was disapproved.

Table 3.14
Waivers of Strict Compliance
for Residential Projects Involving
100 or More Dwelling Units

	Project Location	Land Management Area	No. of Units
APPROVED			
	Evesham	Rural Development	4,500
	Southampton	Rural Development	2,559
	Berkeley	Rural Development	1,411
	Winslow	Agricultural Production	710
	Weymouth	Forest	642
	Stafford	Forest	483
	Barnegat	Growth	379
	Buena Vista	Rural Development	202
	Hamilton	Growth	127
	Medford	Growth	121
	Egg Harbor Twp.	Growth	118
	Southampton	Forest	100
DISAPPROVED			
	Manchester	Forest ¹	4,500
	Galloway	Rural Development	320
	Pemberton	Forest	251
	Mullica	Village ²	108
	Barnegat	Forest	100

¹A portion extends into the Preservation Area.

²A portion extends into a Forest Area.

Letters of Interpretation

There have been 244 Letters of Interpretation issued by the Pinelands Commission from January 14, 1981 through June 30, 1983.

The vast majority of these Letters of Interpretation involve the issuance of site-specific natural and historical inventory data, or a restatement of Plan requirements as to allowable land uses in various land management areas or, in some cases, to specific parcels of land. As is evidenced in Table 3.15, these types of letters generally pertain to Sections 5-403 (regarding the allocation of Pinelands Development Credits), 5-103 and 5-105 (regarding wetland area delineations), 6-1407 (regarding the location of historic and archaeological sites), and those sections of Article 5 dealing with land uses in the various management area districts. A number of the Letters of Interpretation also make reference to definitions of the Plan (Section 2-201) in reaching conclusions on the question being addressed.

There are, however, a number of other Letters of Interpretation which actually elaborate upon or clarify Comprehensive Management Plan requirements and may be thought to have more significant implications from a regional policy perspective. Several of the most significant interpretations are summarized below:

Residential Densities In Regional Growth Areas Prior to Commission Certification of Revised Municipal Master Plans and Land Use Ordinances

Letter of Interpretation No. 57 clarified how the residential densities set forth in the Comprehensive Management Plan would be applied to specific projects before a municipality completed its planning and zoning revisions. Section 5-308 of the Plan provides that residential density be "equal to" the density assigned under the Plan. To vary from these assigned densities before a municipality completed its planning and zoning could well limit a township's ability to apportion density at varying intensities in a growth area and unduly influence capital improvement planning prerogatives of a municipality. It was therefore concluded that residential projects that vary from the CMP designated densities can be favorably considered only after a municipality has revised its master plan and zoning ordinance.

Increased Densities For Residential Projects Which Replace Existing Substandard Housing

Letter of Interpretation No. 71 clarified the application of the standards associated with the granting of a Waiver of Strict Compliance for "compelling public need." The specific situation involved the replacement of substandard housing for low income families at a density higher than that permitted under Pinelands Plan standards.

It was concluded that a waiver from the density limitations of the Plan could be justified if the replacement of substandard housing serves an essential health and safety need of the municipality in which the development is proposed, that it would serve the existing needs of Pinelands residents, and that no alternatives to the replacement housing were available.

Commission Interpretation of Certified Municipal Ordinances

Letters of Interpretation No. 171 and No. 222 clarify the role of the Commission in interpreting municipal ordinances which it has certified. Both the Pinelands Protection Act and the Comprehensive Management Plan envisioned that municipalities would reassume their roles as the primary permitting authorities once their master plans and ordinances received Commission approval. Moreover, the extent to which a proposed development is consistent with the Comprehensive Management Plan becomes moot at that point because the certified municipal ordinance is controlling. It was concluded, therefore, that it is inappropriate for the Commission to issue such interpretations in these instances.

It is noteworthy that this policy does not mean that the Commission is abrogating its responsibility to ensure that local decisions are consistent with goals and objectives of the Comprehensive Management Plan. In a situation where a municipality interprets its ordinance in such a way that its consistency with the Pinelands Plan is compromised, the Commission can exercise its prerogative to review the local development approval and overturn it if necessary to ensure the Plan's integrity.

Effect of Pinelands Development Approvals In Municipalities Which Are Not Certified

Three Letters of Interpretation, numbers 168, 169, and 170, clarified the roles of the Commission and municipalities in development permitting once the so-called "conformance period" expires. In municipalities which have received Pinelands Commission approval of their master plans and land use ordinances, the primary decision making authority is vested in the township. However, the Pinelands Commission assumes direct development permitting responsibilities in those localities which did not complete the necessary master plan and ordinance changes within the required time periods. This continues until the master plan and associated ordinances are certified by the Commission.

Although these municipalities continue to exercise development review responsibility, Sections 3-407 and 4-205 of the Comprehensive Management Plan explicitly state that a Pinelands Development Approval supersedes any local decision in these instances. Thus, it was concluded that a municipality could not take any action or render a decision which would effectively alter a Pinelands Development Approval or any conditions attached to that approval. To the extent that any local development requirements go beyond those matters regulated by the Comprehensive Management Plan (such as parking and loading requirements, lighting, construction standards, etc.) and could be accommodated without affecting any Pinelands standards, a municipality is free to impose conditions relating to those standards or to disapprove a development project on the basis of those standards.

As mentioned earlier, this is an area which has created particular tension between regional and local land use standards. Several Pinelands Development Approvals have been appealed to the Office of Administrative Law by several uncertified municipalities on the grounds that they have the authority to modify or alter Pinelands standards. In all cases, the provisions of the Pinelands Plan have been upheld.

Standards For Reviewing Waivers of Strict Compliance Which Involve Projects Previously Approved By Municipalities

The standards addressed in Letter of Interpretation No. 233 were those relating to waivers granted on the basis of prior municipal development approvals; specifically how a valid municipal development approval is determined, what costs are recognized in determining the amount of relief required to alleviate the hardship, and how a minimum reasonable rate of return on those costs is calculated. Although this Letter of Interpretation is rather lengthy and complex and cannot be fully summarized here, several points are worth highlighting.

First, a municipal development approval can consist of one or more of the following: subdivision approvals (minor and major, preliminary and final) and site plan approvals (minor and major, preliminary and final). Sketch plat reviews and other conceptual reviews and county planning board approvals do not authorize development and will not be recognized. To be a valid approval, one of several conditions must be met and, as mentioned earlier, applications for waivers under this provision received after January 14, 1984 will generally be unable to demonstrate that prior municipal approvals are still valid.

The following types of expenditures were also identified as being reasonable to consider when determining the amount of relief required: land acquisition costs including closing costs and interest on mortgages; actual construction costs including interest on construction loans; legal and engineering fees necessary to secure the development approvals; increased property taxes paid because development approvals were received or property improvements were made; and any cost associated with the ultimate sale of the land or homes. Generally, only costs incurred prior to February 8, 1979 will be recognized.

In determining a minimum reasonable rate of return on those expenditures, the amount calculated is based on a low risk investment and not a normal rate of return which might be anticipated in a particular development project. The rates used in this calculation are those interest rates for three month Treasury notes.

Again, it should be noted that this Letter of Interpretation is very involved, and it is suggested that the reader refer to the letter itself for more details.

Acquiring Additional Property to Meet the Lot Size Requirements of the Plan's "Grandfathered" Lot Provision

Letter of Interpretation No. 205 clarifies Section 5-311 of the Comprehensive Management Plan which provides that persons who owned property in the Protection Area as of February 7, 1979 could construct a home on that lot for their personal use as long as the property to be developed was at least one acre in size. This section effectively exempts these landowners from meeting the residential lot size requirements that exist in the various Pinelands land management areas.

The question specifically addressed in this Letter of Interpretation was whether Section 5-311 of the Plan would preclude an individual who otherwise met the qualifications from acquiring adjoining land to increase the lot area to one acre or more. Since the applicant owned the original lot as of February 7, 1979, it was concluded that additional land could be assembled so that the combined lot area would equal an acre and thus qualify the individual for the density exemption.

Acceptable Deeds of Conservation Easement In Pinelands Development Credit Transfers

Letter of Interpretation No. 238 resulted in the Commission's review of a proposed deed of conservation easement to determine if it was consistent with Plan requirements relating to the transfer and use of Pinelands Development Credits.

This Letter of Interpretation concluded that the proposed conservation easement, with minor adjustments, would be consistent with the Plan. This fact alone is not overly significant. However, the easement document itself can serve as an example to others who wish to prepare deed restrictions which would then permit Pinelands Development Credits assigned to that property to be severed and used elsewhere to obtain residential density bonuses. There have since been several other forms of easements reviewed and approved by the Commission which can also be used by interested parties as examples.

Standards For Reviewing Waivers of Strict Compliance Which Involve Properties Not Capable of Yielding Reasonable Returns Under the Plan

Letter of Interpretation No. 236 addressed a situation where a vacant lot adjoined a developed lot, both owned by the same individual. The vacant lot did not, unto itself, meet requisite lot area requirements and it was asked if this vacant lot might qualify for a Waiver of Strict Compliance because it could not reasonably be developed or used under the standards of the Comprehensive Management Plan.

It has been consistently recognized that an applicant cannot isolate a portion of a contiguous parcel of land and thereby demonstrate that one portion is incapable of use. Contiguous property under one ownership must be viewed as a single unit in determining whether the entire parcel is capable of reasonable use under the Plan. Therefore, the vacant lot in this instance must be viewed as part of the entire property. Since a home already exists on the property, it was found that a waiver was not warranted.

Table 3.15
Letters of Interpretation
as They Relate to Sections of the CMP

Article & Section of CMP	Letter Number Citing Section
Article 2: Interpretation and Definition	
Section 2-201, Definitions	3, 4, 6, 8, 9, 10, 11, 14, 17, 26, 32, 34, 47, 48, 53, 60, 61, 63, 64, 65, 66, 87, 112, 119, 121, 124, 136, 166, 176, 198, 199, 215, 220, 226, 230, 242
Article 3: Certification of County, Municipal, and Federal Installation Plans	
Section 3-407, Effect of Municipality's Failure to Obtain Commission Certification of Master Plan and Land Use Ordinances	168, 169, 170
Section 3-408, Effect on and Responsibilities of Municipality Upon Certification	171, 222
Section 3-501, Conformance of Federal Installation Master Plans	5
Section 3-507, Amendments to Federal Installation Plan	5
Article 4: Development Review	
Section 4-101, Applicability (uniform procedures)	11, 17, 34, 66, 87
Section 4-202, Applicability (areas without certified local plans)	5
Section 4-205, Action by Executive Director	168, 169, 170
Section 4-303, Applicant to Submit Copies of Local Applications to Commission	11
Section 4-307, Commission Review Following Preliminary Approval	7
Section 4-310, Commission Review Following Final Local Approval	7
Section 4-402, General Requirements	5
Section 4-505, Standards	29, 71, 135, 233, 224, 236
Section 4-605, Limitations on Issuance of Use Interpretations	3, 14, 26, 42, 176
Article 5: Minimum Standards for Land Use and Intensities	
Introduction	
Section 5-101, Development in Accordance with this Plan	18, 19, 38, 47, 222
Section 5-102, Expansion of Existing Uses	49, 66, 225
Section 5-103, Maps Status	69, amended 69, 190
Section 5-104, Height Limitations	21, 138
Section 5-201, Purpose	14, 18, 23, 24, 47, 59, 67, 69, 80, 105, 106, 114, 126, 141, 142
Section 5-203, Goals and Objectives of Pinelands Management Areas	7, 15, 38, 128
Section 5-204, Minimum Standards for Municipal Designation of Agricultural Production Areas	47, 166
Section 5-206, Minimum Standards for Delineation of Pinelands Villages	103, 163
Section 5-301, Purpose	3

Section 5-302, Minimum Standards Governing the Distribution and Intensity of Development and Land Use in the Preservation Area District	1, 2, 4, 8, 26, 28, 48, 61, 66, 121, 126, 131, 136, 176, 215, 225
Section 5-303, Minimum Standards Governing the Distribution and Intensity of Development and Land Use in Forest Areas	9, 28, 63, 92, 110, 115, 121, 129, 136, 145, 190, 198, 216
Section 5-304, Minimum Standards Governing the Distribution and Intensity of Development and Land Use in Agricultural Production Areas	10, 28, 53, 75, 90, 100, 127, 131, 136, 172, 202
Section 5-306, Minimum Standards Governing the Distribution and Intensity of Development and Land Use in Rural Development Areas	6, 12, 14, 19, 25, 26, 29, 36, 42, 47, 90, 113, 123, 136, 138, 141, 207
Section 5-307, Minimum Standards Governing the Distribution and Intensity of Development and Land Use in Pinelands Villages and Towns	28, 133, 136, 145
Section 5-308, Minimum Standards Governing the Distribution and Intensity of Development and Land Use in Regional Growth Areas	7, 15, 19, 21, 26, 27, 30, 31, 32, 38, 47, 51, 57, 82, 88, 91, 107, 136, 166, 243
Section 5-311, Minimum Standards for Substandard Lots	10, 39, 70, 98, 205, 239
Section 5-402, Pinelands Development Credit Program Required	1, 2
Section 5-403, Pinelands Development Credits Established	54, 79, 85, 94, 95, 108, 122, 130, 132, 135, 152, 153, 154, 155, 156, 157, 158, 161, 166, 174, 179, 180, 185, 187, 188, 189, 191, 194, 200, 204, 212, 213, 218, 219, 227, 232, 237, 239, 241 84, 152, 238
Section 5-404, Limitations and Use of Pinelands Development Credits	21
Section 5-405, Pinelands Development Credit Bonus Multipliers	
Article 6: Management Programs and Minimum Standards	
Part 1 — Wetlands	
Section 6-103, Wetlands	64, 65, 217, 220, 226, 230, 242
Section 6-105, Inland Wetlands	60, 62, 64, 65, 74, 76, 81, 89, 92, 96, 101, 118, 167, 201, 217, 226, 230, 242
Section 6-106, Development Prohibited	60, 167, 201, 225
Section 6-107, Significant Adverse Impact	80, 89, 118, 120, 139, 167, 190, 292
Section 6-108, Agriculture and Horticulture	225
Section 6-109, Forestry	225
Section 6-111, Low Intensity Uses	167
Section 6-112, Water-Dependent Recreational Uses	167
Section 6-113, Public Improvements	167
Section 6-114, Wetland Transition Areas	80, 89, 118, 120, 139, 167, 190, 242

Part 2 — Vegetation	
Section 6-201, Purpose	217
Section 6-203	34, 64
Section 6-204	13, 47, 73, 78, 104, 111, 113, 214
Section 6-302	13, 47, 73, 78, 104, 111, 113, 166
Section 6-404	176
Section 6-503	34
Section 6-606	45, 100, 117
Part 6 — Resource Extraction	
Section 6-607, Restoration Standards	86
Part 7 — Waste Management	
Section 6-704, Existing Landfills	119
Section 6-705, New Landfills	119, 216
Part 8 — Water Quality	
Section 6-801, Purpose	34
Section 6-804, Minimum Standards for Point and Non-Point Source Discharges	28, 64, 68, 92, 109, 138, 139, 146, 190, 193, 199, 201
Section 6-807, Prohibited Chemicals and Materials	216
Part 13 — Recreation	
Section 6-1302, Recreation Management Plan	26
Section 6-1303, General Requirements	17
Part 14 — Historical, Archeological and Cultural Preservation	
Section 6-1407, Undesignated Historic and Archeological Sites	12, 13, 14, 15, 22, 33, 35, 37, 38, 44, 46, 47, 55, 56, 64, 72, 73, 77, 78, 84, 93, 97, 99, 100, 102, 104, 109, 111, 112, 113, 124, 128, 137, 140, 144, 147, 150, 151, 164, 166, 173, 181, 182, 183, 184, 186, 192, 195, 196, 197, 203, 206, 209, 210, 211, 214, 228, 229, 235, 240, 242

Future Analyses

The foregoing analyses represent only the first step in the development of a comprehensive system of monitoring and analyzing development decisions made under the auspices of the Comprehensive Management Plan. As the Commission's study of its automation needs progresses, a number of additional queries suitable for statistical analysis must be included to permit the Commission, as well as interested observers, to more fully evaluate the efficiency of the development review system, the compatibility of permitting decisions with Comprehensive Management Plan policies, and the impact of those decisions on the protection of the Pinelands.

Phase III of the Commission's automation project with the Delaware Valley Regional Planning Commission involves the arranging and development of the various data files necessary for development review, planning, and administrative purposes. Although it is premature to speculate on the precise content of the automated data files, they will undoubtedly include capabilities to evaluate the following: application processing time; varying types of development approvals issued (preliminary subdivision, final subdivision, building permits, etc.); time elapsing between various stages of a project; types of Comprehensive Management Plan standards most frequently waived; most frequent conditions attached to development approvals; and types of issues most frequently appealed (administratively and judicially) as well as their ultimate resolution.

Chapter IV

ACQUISITION PROGRAM

Prior to the passage of the 1978 National Parks and Recreation Act and the 1979 Pinelands Protection Act, more than 240,000 acres in the Pinelands were under public ownership. This area included 17 wildlife management areas, four state forests, and three state parks. These state lands alone accounted for more than 25 percent of the Pinelands Area. Additional natural reserve lands were owned by the federal government and local counties.

State land holdings existed in each of the major Pinelands watersheds, particularly in the North Branch-Rancocas Creek, Dennis Creek, and in sub-basins of the Mullica River. The Atsion River-Sleeper Branch and the Batsto River drainage areas were both 59 percent state owned, and approximately 40 percent of the North Branch-Rancocas Creek basin was state land. Approximately 30 percent of the Wading River watershed, an area which best characterizes the central Pinelands, was under state ownership. Additionally, Atlantic coastal areas were represented by eight individual state and federal management areas. This preexisting system of public lands formed the nucleus around which a comprehensive Pinelands acquisition program has been developed. This program, outlined in the Comprehensive Management Plan, is summarized here along with a description of its current status.

Program Summary

The Comprehensive Management Plan's land acquisition program is designed to protect ecologically and culturally critical areas and provide a broad spectrum of public recreational opportunities. The ultimate goal of the program is to develop a system of self-maintaining ecological reserves which are representative of the Pinelands. To this end, the Commission identified eight major land areas for potential acquisition. In addition to the 67,000 acres of land included in these major project areas, the Commission foresaw the need to acquire an additional 30,000 acres, including interior and exterior additions, to existing state lands. Approximately 75 percent of the identified project lands are located in the Preservation Area. The remaining areas are located within Forest Areas which are distributed throughout the Protection Area.

The acquisition target areas were selected largely for their ecological, historical, and recreational values. Commission decisions were guided by a number of criteria which reflect these values. The potential project areas identified through this process are described below.

Table 4.1
Major Acquisition Areas

Project Area	Approximate Acreage
Cedar Creek Watershed	10,000
Core Preserve	32,000
Lower Mullica/Wading River Watersheds	2,000
Additions to Wharton State Forest	5,000
Toms River Watershed	1,400
Oyster Creek Watershed	2,500
North/South Corridor	7,500
Southern Forest Region	6,600
Sub-total	67,000
Total	97,000

The projected cost of the acquisition program for a five year period (1980-1985) was estimated to be \$80,809,700. Funding sources included state Green Acres (GA) bond issues and federal monies from Section 502 of the National Parks and Recreation Act and the Land and Water Conservation Fund. The following table describes the revenues which were projected by the Plan.

**Table 4.2
Projected Revenue Sources**

Source of Funds	Funds
State	
Green Acres bond issue of 1974	\$10,000,000
Green Acres bond issue of 1978	13,750,000
Future bond authority	8,988,100
Subtotal	32,738,100
Federal	
Section 502	23,000,000
Land and Water Conservation Fund (regular funds)	13,750,000
Land and Water Conservation Fund (additional need)	11,321,600
Subtotal	48,071,600
Total	\$80,809,700

Of the total projected, \$60,500,000 were expected from already allocated acquisition funds, and it was estimated that an additional \$20,309,700 would be needed to meet the land acquisition goal of approximately 100,000 acres. Future allocations from state Green Acres bond issues and the Federal Land and Water Conservation Fund were the assumed sources of these funds.

Acquisition Process

The Pinelands acquisition program is a cooperative venture between the Pinelands Commission and the New Jersey Department of Environmental Protection (DEP). The principal role of the Commission is planning acquisition projects. These project areas are then recommended to the Department of Environmental Protection, the official acquisition agency. Department agencies directly involved in the acquisition process are the Division of Fish, Game and Wildlife and the Division of Parks and Forestry, the two branches that manage state recreational lands, and the Green Acres Program which serves as the state's Pinelands acquisition agent. Final decisions on acquisition projects result from a consensus reached by these DEP agencies and the Pinelands Commission.

Once a project area is delineated and funds are committed to it, landowners within the designated acquisition area boundaries are notified of the state's possible interest in acquiring their land. Surveys, title searches, and appraisals are then initiated. Landowners are invited to accompany the two independent appraisers retained by the state. The two resulting appraisals are then evaluated by the Department of Transportation, Division of Right of Way Management, which sets a final value. The Department of Environmental Protection then offers to buy the land from the owner at this certified fair market value. The landowner may present a counter offer which is given consideration by the DEP. Within certain constraints, a final value may be negotiated. In the Preservation Area, it is DEP's policy to have appraisals reflect pre-Pinelands regulation land values. The purpose of this approach is to disregard changes in land values related to state and federal preservation mandates.

The completion schedule for acquisitions varies from project to project. Title problems, surveying difficulties, lengthy appraisal processes, and acquisition negotiations all affect the process. Some steps have been taken to implement Plan recommendations to streamline the process, the most notable of which is the simplification of the title search process. As a result,

time is being saved, and the associated costs of title work are being reduced. In general, however, large parcels under single ownership are more easily acquired than smaller lots under diverse ownerships, and this factor is considered in DEP's review of potential projects.

A tax lien program is currently in the initial stages of development and could potentially become a major element of the Pinelands acquisition program. The implementation of an effective tax lien program is dependent on the outcome of a current foreclosure suit and the passage of a proposed amendment to P.L. 1948, c. 96. This amendment would grant the State of New Jersey title to lands covered by tax sale certificates held by the state for more than 30 years.

Funding Status

As previously described, funds which were originally authorized for land acquisition total \$60,500,000. The current status of each funding source is discussed here.

- Green Acres Bond Issue of 1974 -- Only \$7,956,856 of the \$10,000,000 originally authorized for Pinelands acquisition have been made available for regional projects. The remaining \$2,043,144 were diverted to non-Pinelands, state acquisition projects. It is still possible, however, that an equal amount of funding may be appropriated and assigned to Pinelands projects
- Green Acres Bond Issue of 1978 -- The Department of Environmental Protection originally authorized \$13,750,000 of 1978 Green Acres bond issue funds for Pinelands acquisition. Approximately two-thirds of these authorized funds (\$8,750,000) have been appropriated. The department has diverted the remaining \$5,000,000 dollars to non-Pinelands projects, and no additional funds are anticipated
- Land and Water Conservation Funds -- The Department of Environmental Protection allocated \$13,750,000 of the anticipated, statewide apportionment of this federal fund to match state funds authorized from the 1978 Green Acres bond issue. The Department of Interior reports that \$5,272,693 from this fund have been committed to specific projects. If 1978 Green Acre bond issue monies are used to match Land and Water Conservation Fund dollars, an additional \$3,477,307 may become available. This results in a \$5,000,000 reduction from the \$13,750,000 originally anticipated
- Federal "502" Funds -- Of the \$26,000,000 authorized for Pinelands purposes in the federal legislation, \$23,000,000 were originally anticipated for acquisition, and \$3,000,000 were anticipated for planning. Planning appropriations have totalled \$800,000 to date. Since no further planning funds are anticipated, the balance of the \$26,000,000 (\$25,200,000) can be anticipated for acquisition. To date, \$18,883,500 have been appropriated for acquisition purposes. An additional \$247,000 have been appropriated but were reserved by the Department of the Interior for its administrative costs. Anticipated funds for the future thus total \$6,069,500, although future appropriations which are available for acquisition may be somewhat less due to the reservation of funds by the Department of the Interior for administrative purposes

In summary, \$40,863,049 in state and federal funds have been appropriated and committed to Pinelands acquisitions. The maximum which can be expected in future appropriations is \$11,589,951. This reflects a minimum reduction of \$8,047,000 in funds originally anticipated from prior authorization. Unless new sources of funding are found, the amount of land ultimately protected through state acquisition will be less than originally estimated.

Achievements

In spite of the financial shortfall, the Plan's acquisition program has proven to be a successful one. Exceptional coordination between the Pinelands Commission and the Department of Environmental Protection has resulted in the initiation of a number of projects encompassing 52,000 acres or 78 percent of the 67,000 acres recommended for acquisition in targeted areas. More than 26,000 acres have been acquired since 1979.

Major accomplishments include the initiation or completion of all or parts of four major project areas. These are the Cedar Creek Watershed, the Core Preserve, additions to Wharton State Forest, and the North/South Corridor projects. The following table and discussion describes each project area, the acreage acquired to date, and the federal funding source for each project. Project area boundaries are shown on the accompanying state lands and acquisition map (Figure 4.1).

Table 4.3
Summary of Acquisition Project Status

Project	Acreage Projected in Active Projects	Acres ¹ Acquired	Funding Source
Cedar Creek Watershed			
Double Trouble State Park	1,427	823	LWCF,GA
Cedar Creek Main Stream	4,272	2,545	502,GA
Cedar Creek Headwaters	7,214	4,536	502,GA
Core Preserve			
West Plains/Greenwood Forest Connector	9,000	8,808	LWCF,GA
Oswego River Extension	7,711	5,709	502,GA
Bass River Connector	7,000	536	502,GA
Upper Wading River Watershed	3,400	0	LWCF,GA
Additions to Lebanon State Forest	250	100	GA
Additions to Wharton State Forest			
Goose Ponds at Tabernacle	909	909	LWCF,GA
Friendship Bogs	2,171	2,171	LWCF,GA
Minor additions	478	250	LWCF,GA
North/South Corridor			
Makepeace Lake ²	8,000	0	502,GA
Southern Forest Region	229	229	LWCF,GA
Total	52,061	26,616	

¹ As of August 1983.

² Currently under review by the Department of the Interior.

Cedar Creek Watershed

Ten thousand acres in the Cedar Creek Watershed were designated for acquisition by the Plan. The acquisition area was subsequently increased to approximately 13,000 acres and included three separate projects: Double Trouble State Park additions, Cedar Creek Main Stream, and Cedar Creek Headwaters. More than 50 percent of the Cedar Creek watershed falls within the boundaries of these project areas which connect Double Trouble State Park to Greenwood Forest Wildlife Management Area. Significant natural resources found within this basin include extensive cedar swamps, botanical sites, critical reptile and amphibian habitats, important deer wintering areas, and most importantly, "pristine" waters. The project also includes the main stem of Cedar Creek, one of the most actively used canoe trails in the Pinelands. More than 60 percent (7,904 acres) of this project has been acquired.

Core Preserve

Major parcels of land within the East and West Branch of the Wading River, Bass River, and Westecunk Creek watersheds totalling 32,000 acres were identified in the Plan as priority acquisition areas. Approximately 28,000 acres within this target area referred to as the Core Preserve are currently included in active, funded projects. These are the West Plains/Greenwood Forest Connector, Oswego River Extension, Bass River Connector, and the Upper Wading River Watershed projects. These projects account for more than 85 percent of the Core Preserve area.

Approximately 8,800 acres have been acquired within the 9,000 acre West Plains/Greenwood Forest Connector project. This project area is located in the northern portion of the East and West Branches of the Wading River along the southern border of Greenwood State Forest. About 5,000 acres of the West Plains are included within the project boundaries.

The 7,711 acre Oswego River Extension project and the 7,000 acre Bass River Connector together form an important link between Wharton State Forest and Bass River State Forest. The Oswego River Extension includes sections of the Oswego River (East Branch, Wading River), a popular canoe trail, along with minor tributaries of this critical ecological resource. Tributaries of the Wading River area are also found within the Bass River Connector project. Additionally, completion of this project will ensure the protection of the upper reaches of all the major tributaries of the Bass River.

The acquisition of lands adjacent to both Lebanon State Forest and Greenwood Forest Wildlife Management Area is currently being pursued. This 3,400 acre project, located north of Route 72, is referred to as the Upper Wading River Watershed project.

Lower Mullica/Wading River Watershed

The Plan describes this project as the acquisition of approximately 2,000 acres of land located in the lower portions of the Mullica and Wading Rivers. Land and Water Conservation Funds were available for acquisition of this area which is referred to as Swan Bay. These funds were transferred to the Upper Wading River Watershed project, and the Swan Bay project has been discontinued because of riparian rights issues.

Additions to Wharton State Forest

Completed additions to Wharton State Forest include both major and minor projects. The major projects, Goose Ponds at Tabernacle and Friendship Bogs, are additions to the northern portion of Wharton State Forest. The 909 acre Goose Ponds project is located at the headwaters of the Batsto River, north of Moore's Meadow. The 2,171 acre Friendship Bogs area affords substantial protection to the biologically valuable Tulpehocken Creek drainage area. Minor additons, such as acquisition of land at Bulltown, total approximately 500 acres. Completed additions have achieved nearly 70 percent of the 5,000 acre Plan acquisition goal.

North/South Corridor

The Plan identified the need to acquire approximately 7,500 acres of land strategically located between the northern and southern Pinelands in an area referred to as the Elwood Corridor. This objective will be accomplished with the completion of the 8,000 acre Makepeace Lake project in Atlantic County. This project, to be funded with federal 502 and Green Acres monies, includes the recreationally important Makepeace Lake and the botanically significant Atlantic County Goose Ponds. An application for federal funds is currently being reviewed by the National Park Service.

Other Project Areas

Other project areas described in the Plan are the Toms River Watershed, the Oyster Creek Watershed, and Southern Forest Region projects. No acquisitions have been initiated within the Toms River Watershed. Targeted areas within this project include additions to the Colliers Mill and Manchester Fish and Wildlife Management Areas.

In the Protection Area, 6,600 acres have been identified for acquisition within the Southern Forest Region. These include additions to Peaslee Wildlife Management Area and Belleplain State Forest. About 230 acres have been purchased there. Active and completed acquisitions account for eight percent of the total area identified in the Plan. Another Protection Area project, located within the Oyster Creek Watershed, was pursued as a less than fee simple acquisition by the Department of Environmental Protection. The project was not considered feasible and has since been discontinued.

Future Acquisitions

There are a number of other areas which are being considered for future acquisition. The Pinelands Commission has endorsed a project which will buffer the headwaters of North Branch-Rancocas Creek tributaries from existing and proposed development in Ocean County. This 2,900 acre project, located in the Protection Area and referred to as the Lebanon Headwaters, will provide substantial protection to Mt. Misery Brook and to Lebanon State Forest lands. Acquisition of this area has been recommended to the Department of Environmental Protection by the Commission. Other projects being considered by the subcommittee include a portion of the East Plains located within the Westecunk Creek basin and connectors between the West Plains and Penn State Forest (including the Spring Hill Plains).

The Commission staff and members of the Acquisition Subcommittee have also met with individuals who are interested in the long term protection of the Forked River Mountain area. One topic discussed at these meetings was the identification of potential acquisition sites within this area.

FIGURE 4.1



CHAPTER V

ECONOMIC IMPACTS OF THE COMPREHENSIVE MANAGEMENT PLAN

The economic and fiscal impacts of Pinelands land use regulations have been the subject of considerable controversy since their inception. An economic analysis of the CMP, prepared for the Pinelands Commission prior to the Plan's adoption, predicted that land values and associated tax assessments would increase in some areas and decrease in others, depending upon pre-existing levels of development pressure and the amount of growth permitted under the Plan.¹ Similarly, the Plan's impacts on the regional economy were expected to differ by industry, benefiting those which are dependent upon the natural resources of the area, while constraining the expansion of growth-related industries in restricted areas. Since the Plan reinforces existing patterns of development, its implementation was not expected to have major economic consequences for the region as a whole.

Since the Pinelands Commission is concerned about the potential negative economic effects of the CMP, a two year study was undertaken in 1981 to document the short-term impacts of the Plan on land markets, housing markets, employment, sand and gravel mining, agriculture, and municipal finances throughout the Pinelands region. The results of this study were reviewed by the Commission's Economic Development Subcommitte and were published in July 1983 in a report entitled *Economic and Fiscal Impacts of the Pinelands Comprehensive Management Plan*. The basic method used in the analysis was to compare pre-moratorium, moratorium, and post-CMP trends in the Pinelands with trends outside the Pinelands or throughout the seven county region and the state. The major findings of the study are presented below.

Land Markets

The number of land transactions occurring in the 52 Pinelands Area municipalities and throughout the state has decreased steadily since 1978, due largely to general economic conditions. In order to determine whether or not land market activity has declined at a more rapid pace in the Pinelands communities than elsewhere in the seven county region or the state, a "share" analysis can be employed. The term "share" as used here refers to the percentage of the dollar volume of sales or 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 declining throughout the state due to the recent recession, and they are declining at the same rate in the Pinelands towns, the graph representing the share of the state would be a straight horizontal line. This situation would indicate that the drop in sales observed in the Pinelands merely reflects general economic conditions. On the other hand, if the graph of the share decreases (or increases) over time, then sales are declining (or growing) 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 slope of the trend 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.

As a share of the state, the dollar volume of sales in the Pinelands increased from 1972 to 1976, and declined thereafter, except in 1978 and 1981 (see Figure 5.1). The share of transactions followed a similar (although not identical) pattern since the average value of the

¹*Economic 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.

transactions varies somewhat from year to year. The regional shares exhibited a very pronounced downward trend after 1975. Much of the decline in the Pinelands shares during this period can be attributed to the dramatic increase in sales activity in the Atlantic City area. Pinelands regulations may have also dampened land speculation and the sale of building lots from 1979 to 1981. In 1982, however, the proportion of transactions occurring in the Pinelands towns increased relative to the region and the state, indicating a possible reversal of earlier trends.

To determine the impacts of Pinelands regulations on land prices, detailed information was collected for all market sales of vacant land and farmland involving parcels one acre or larger in 13 Pinelands municipalities for the period from January 1, 1976 to July 30, 1982. Price trends in each management area were then compared to trends in those areas of the towns which are located outside the Pinelands Area, plus two non-Pinelands towns. Comparisons of average prices per acre, summed across all transactions, show that prices outside the Pinelands Area were slightly lower in the post-CMP period (1981-82) than in the pre-moratorium period (1976-1978), despite the fact that land in these areas is not subject to Pinelands regulations (see Table 5.1). Conversely, prices in all Pinelands management areas except the Preservation Area showed increases following the enactment of the CMP, compared to the pre-moratorium period.

In the Preservation Area, only four private market transactions occurred after the adoption of the CMP in the towns analyzed, making it difficult to draw any firm conclusions about land values there. The average price per acre for the four sales combined was \$425, considerably less than in preceding years. However, the Preservation Area sales in preceding years include many small parcels (1-5 acres), which have relatively high per acre prices. In contrast, the Department of Environmental Protection has purchased 26,230 acres of land in the Preservation Area at pre-moratorium appraised values which range from \$300/acre to \$700/acre on 90 percent of the acreage required. Thus, the apparent loss of value may not be too great. All of the average prices shown in Table 5.1 must be interpreted with caution since the parcels involved in each sale and the transactions themselves have differing characteristics in each time period.

Transactions in the 13 towns were analyzed using regression analysis to control for many of the variables which affect land prices, including acreage, road access, public sewer, zoning, and land use. Regression models were constructed for the pre-moratorium, moratorium, and post-CMP periods, and the effects of location vis-a'-vis the Pinelands management areas were compared across time periods. It was found that, relative to land prices outside the Pinelands Area, prices in the Forest Areas, Agricultural Production Areas, Rural Development Areas, and Pinelands Towns and Villages dropped significantly during the moratorium while prices rose somewhat in the Regional Growth Areas. After the Comprehensive Management Plan went into effect, however, these trends were reversed, with none of the management areas showing a drop in relative prices.¹ Thus, the CMP has apparently had little or no overall effect on land prices in the Protection Area during the limited time period studied. Analyses for individual townships show a positive effect on prices in the Regional Growth Area of Hamilton Township and the Pinelands Village in Manchester Township and a negative effect on Rural Development Areas in Monroe and Jackson Townships.

Housing Markets

Analyses of residential sales throughout the 52 Pinelands Area towns show no discernable effect on the overall level of housing sales or on housing prices in the Pinelands. However, new construction, as gauged by the number of residential building permits issued, dropped rather sharply during the moratorium period, both in absolute terms and in relation to the region and the state. After the adoption of the CMP, the total number of permits issued in the Pinelands communities continued to decline; however, the Pinelands share of regional permits increased and the state share stabilized, indicating a possible strengthening of local markets (see Figure 5.2).

¹Data for the Preservation Area were not statistically significant due to the small number of sales and the large variations in prices there.

It is not clear whether or not these recent trends are likely to persist under the CMP. About two-thirds of the housing units approved by the Pinelands Commission in 1981 and 1982 were economic hardship waivers granted under provisions of the Plan which effectively expire in January 1984. On the other hand, approvals already granted by the Commission outnumber all building permits issued in the 52 towns by more than two to one. Therefore, many new homes can be built in the Pinelands in the future based on approvals already granted. Local zoning in various management areas provides the opportunity for tens of thousands of new homes to be built, and some towns have also established Municipal Reserve Areas to accommodate additional growth as the Regional Growth Areas become fully developed.

Employment

Total employment in the seven Pinelands counties increased at a faster rate than employment throughout New Jersey from 1972 to 1981, and the region's share of statewide employment grew at a faster rate from 1978 to 1981 than in preceding years (see Figure 5.3). Therefore, Pinelands regulations have apparently had no adverse impact on the general level of economic activity and associated employment opportunities in the region as a whole. Employment in the 52 municipalities also increased from 1972 to 1981, both in absolute terms and as a share of the state. Seven thousand new jobs were created in Pinelands towns between 1978 and 1981. Since the data analyzed cover a period of less than one year after the adoption of the CMP, no firm conclusions about the Plan's impacts can be drawn. It appears, however, that the Plan has had no significant effect on aggregate employment.

Resource Extraction

While CMP regulations prohibit the opening of new sand and gravel mines in the Preservation Area, only 800 acres have already been mined there out of a total of 4,600 acres which are authorized by valid registration certificates.¹ All but one of the operators in the Preservation Area can at least double the area which they have already mined. In the Protection Area, new mines may be opened and existing mines expanded, provided that they are operated and reclaimed in accordance with CMP regulations. Thus, the acreage restrictions in the Preservation Area impose no short-term constraints on the future expansion of the industry as a whole nor on the vast majority of individual operators.

According to representatives of the mining industry, the requirements for reclamation of mining sites contained in the Plan impose additional costs on mine operators. These costs may be more burdensome for small operators than large ones because the less expensive equipment typically used in small operations tends to cause more land disturbance than more technologically advanced machinery. Studies of reclamation conducted by ASARCO, Inc., however, show that substantial reductions in reclamation costs can be achieved through careful planning and management during the mining process. Mine operators can obtain technical assistance regarding reclamation techniques from a variety of public and non-profit organizations.

Agriculture

Available data show no significant loss of active agricultural land in the Pinelands region since the enactment of the CMP. An issue of major concern to farmers is their ability to obtain sufficient credit to maintain viable operations, assuming that land prices have been adversely affected by Pinelands regulations (an assumption which has not been borne out empirically to date). Interviews with officials of the Farm Credit Associations, the Farmers Home Administration, and commercial banks throughout the country reveal that it is the practice of lending institutions to lend enough money to meet the business needs of a farmer with the expectation that he will pay off the loan through the income he generates from his farming operations. Generally, lenders do not make loans which could be repaid only by selling the farm at high development values. Since this practice is followed in the absence of agricultural zoning, its enactment does nothing to change the practice.

¹ The number of acres actually permitted is somewhat less. See Chapter III (Development Activity).

A survey of all counties in the U.S. that were known to have agricultural zoning ordinances as of 1980 shows that not one has reported that agricultural zoning has caused credit problems. Most officials interviewed reported that, to their knowledge, the complaint had never been raised. Some reported that the argument had been made prior to the adoption of the agricultural zoning ordinance but that it had not been heard since.

Farm Credit Associations and the Farmers Homes Administration office in the Pinelands reported that no farmer has been unable to obtain farm loans because of a reduction in land value caused by agricultural zoning. They have expressed uneasiness about possible credit problems in certain situations which could arise and have indicated that they are concerned about any program which might reduce the value of a farmer's land. However, in light of banking practices and of experience throughout the U.S. and in the Pinelands Area, farm credit problems caused by agricultural zoning appear to be relatively minor.

Municipal Fiscal Impacts

Property taxes in Pinelands municipalities have historically been much lower than taxes in other parts of the state. In 1982, the average residential property tax bill in the 52 towns was \$1,072, compared to \$1,613 for the state as a whole. Nevertheless, taxes have risen rapidly in recent years, and at a slightly faster overall rate in the Pinelands than statewide. The primary cause of increased taxes in the Pinelands has been large increases in public spending for schools and municipal services. From 1978 to 1981 expenditures for municipal functions rose at an average annual rate of 8.6 percent in the Pinelands, compared to 6.1 percent throughout the state. School and county taxes in the Pinelands increased by 13.4 percent per year compared to 8.2 percent statewide. Increased expenditures are primarily a function of the demand for services by a growing population rather than any Pinelands-related restrictions on development.

Pinelands communities rely more heavily on property tax revenues from vacant land than do towns in most other parts of the state. In 1982, vacant land accounted for 10.8 percent of the combined ratable bases of the 52 Pinelands towns, compared to 4.1 percent statewide. Vacant land as a percent of total ratables has declined rather sharply in the Pinelands in recent years; however this trend began as early as 1975, five years before Pinelands land use regulations could exert any influence (see Figure 5.4). Two major factors underlying this trend were a significant drop in the rate of land subdivision after 1975 and the conversion of vacant land to developed uses. From 1980 to 1982 Pinelands acquisitions also contributed to a decrease in vacant land assessed value, although the state reimburses towns for revenues lost as a result of acquisition over a period of 13 years (payments drop by eight percent each year). Also, Pinelands-related tax appeals and reassessments accounted for a minor shift of the tax base from vacant land to residential and other types of properties from 1980 to 1982. The overall impact of the CMP on vacant land ratables in the region, however, appears to be small.

Since a regional analysis may mask significant localized impacts of the Plan on municipal finances, the 10 Pinelands towns which had the largest percentage increases in residential tax bills from 1978 to 1982 were analyzed individually. Increases in residential tax bills in these towns have been caused primarily by increased public spending, as reflected in the total taxes levied by each municipality to cover projected outlays. Only four of the towns had a net decline in vacant land ratables due to Pinelands acquisitions and reassessments, and in three of these townships (Shamong, Tabernacle, and Dennis), the decrease represents two percent or less of the total 1982 ratable base. Only Woodland Township lost a significant proportion of its ratable base as a result of tax appeals and acquisitions. Between 1980 and 1982, reductions in assessed value due to tax appeals amounted to \$3.0 million (12.8 percent of the ratable base), and acquisitions removed another \$2.5 million (10.8 percent of the ratable base) from the assessment rolls. Furthermore, in 1983 Woodland Township had been completely reassessed, and vacant land now accounts for only 21.1 percent of the ratable base compared to 46.6 percent in 1982. This drop has resulted in a significant rise in residential tax bills in Woodland. While Plan-related reassessments and acquisitions have had a major impact on municipal finances in the township, Woodland appears to be unique in this respect.

Continuing Economic Monitoring Program

The economic and fiscal data analyzed thus far cover a period of no more than two years after the enactment of the Plan, during which time all or most of the towns had not yet been certified as being in conformance with the Plan. Therefore, the results of the analysis must be considered preliminary. It will be necessary to monitor economic and fiscal trends over a period of years in order to ascertain the full range and magnitude of the impacts of the Comprehensive Management Plan. The data bases developed in this study will be updated as new information becomes available, and reports documenting the impacts of the Plan will be issued on a regular basis. In addition, the analysis will be refined and expanded where possible. Future studies should include:

- expansion of the land value analysis to include additional explanatory variables, such as distance to urban centers, and perhaps additional municipalities to increase the size of the sample
- analyses of trends in building permits according to Pinelands management areas; (The Commission will try to obtain information on the exact location of each building permit issued.)
- detailed analyses of fiscal trends and Pinelands-related impacts in individual municipalities which are experiencing financial problems
- development of representative farm budgets in cooperation with agricultural economists at Cook College and the New Jersey Department of Agriculture to determine the economic viability of agriculture in the Pinelands
- more detailed analyses of farm lending trends in the Pinelands, if such data are made available by credit institutions, to more specifically determine whether collateral values have been reduced, and, if so, what effects such reductions have had on the ability of farmers to borrow sufficient operating funds

Policy Recommendations

As the foregoing analysis shows, the CMP has been found to have localized short-term impacts on municipal tax bases, and in one case, Woodland Township, the loss of vacant land ratables had a significant effect on property taxes. Thus, some general recommendations for alleviating the fiscal impacts of the Plan are presented below. In addition, recommended policies relating to agriculture are outlined.

1. Policies Relating to Municipal Fiscal Impacts

a. in-lieu-of-tax program

The Pinelands Commission, recognizing that the large-scale acquisition of ecologically significant lands in the Pinelands could have an adverse effect on the ratable bases of certain municipalities, recommended a 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 per 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. It is estimated that the payments made to municipalities under this program would total \$565,081 over the first five years of implementation (1983-1987), excluding Green Acres payments. Since Pinelands acquisitions have had a significant impact on the ratable base of Woodland Township and are affecting several other Pinelands municipalities, it is recommended that the payment in-lieu-of-tax program be enacted at the earliest possible date.

b. reimbursement for loss of vacant land ratables

It is recommended that a program be adopted to alleviate any significant adverse effects on municipal finances caused by the implementation of the Comprehensive

Management Plan. Such a program should consider two factors: (1) the extent to which the value of privately owned vacant land has decreased since the enactment of the Plan and (2) the level of "fiscal stress" which the municipality is experiencing. In calculating the net change in the value of vacant land from 1980 to the current year, properties which have been acquired by the state or which have been converted to farm, residential, commercial, or industrial uses in the interim should be omitted. In addition, payments should be based on "true" (market) value and associated equalized tax rates as determined by the New Jersey Division of Taxation rather than assessed value and actual tax rates. Assessments represent rather artificial measures of value since towns are assessed at varying percentages of true value.

The use of fiscal stress criteria may be especially important if funding for a tax reimbursement program is limited. In order to target aid only to those municipalities which are suffering financial hardship under the CMP, a set of "fiscal stress" indicators could be developed, and each Pinelands municipality could be measured against this set of indicators. Municipalities which exceed a certain threshold level of overall fiscal stress would be considered eligible for financial assistance. Examples of general fiscal stress indicators are: a high and rising rate of tax delinquency, a sudden and substantial decrease in assessed value, a high ratio of own-source revenue to the full value of the taxable property base, a high ratio of local taxes to personal income, a high level of overall debt in relation to personal income, a high level of per capita local taxes, and high per capita expenditures for certain basic functions.¹

c. other programs

In addition to the two programs outlined above, it is recommended that the Pinelands Commission assist municipalities in 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, to minimize costs; counties 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
- work with municipal assessors to develop a means by which the value of Pinelands Development Credits can be incorporated into vacant land assessments
- establish a clearinghouse for land sales and assessment data in cooperation with local tax assessors to facilitate consistent assessment practices in the Pinelands

2. Policies Relating to Agriculture

Since it is the intent of the Comprehensive Management Plan to protect and enhance agriculture in the Pinelands region, several recommendations aimed at promoting the economic viability of farming are presented here. First, it is recommended that the Pinelands Commission, through its Agricultural Subcommittee, continue to meet with

¹Government Finance Associates, Inc., *An Analysis of the Fiscal Impact of the Pinelands Comprehensive Management Plan on Selected Municipalities*, Report to the Pinelands Commission, September 1982.

farmer organizations in order to provide information about the ownership of Pinelands Development Credits and other aspects of the Plan. The Commission should also work with real estate brokers to inform them about the PDC program and encourage the sale of PDCs on the private market. The Commission further supports the establishment of a state Pinelands Development Credit Bank to purchase PDCs from individuals in cases of economic hardship, to extend loan guarantees to lending institutions when PDCs are used as collateral to secure a loan, and to maintain a centralized registry of ownership and transactions of PDCs.

It is also recommended that the Commission work with the New Jersey Department of Agriculture in the development of regulations pursuant to the Agricultural Retention and Development Act so that the valuation of agricultural easements under the statewide program will reflect pre-Comprehensive Management Plan zoning. In addition, proposed legislation and regulations should be monitored by the Commission in order to ensure that such laws will have no adverse effects on agriculture in the Pinelands.

Pending Legislation

Since the adoption of the Comprehensive Management Plan, a series of bills designed to mitigate potential adverse economic impacts of the Plan have been introduced in the state legislature. The proposed legislation addresses five major areas of concern: 1) the effect of land use regulations on the value of privately owned vacant land and associated municipal property tax revenues; 2) the effect of state land acquisitions on municipal ratable bases; 3) the financial impact of use restrictions on private land-owners; 4) the need to conduct detailed studies of the Plan's impacts on municipal finances and property values; and 5) the effect of tourism on municipal expenditures for the cleanup and disposal of solid waste. The content and status of bills currently pending are summarized below:

1. Vacant Land Values and Municipal Property Taxes

The first piece of legislation designed to provide payments to municipalities which experienced declines in assessments on privately owned vacant land was Senate bill No. 1249 and companion Assembly bill No. 1303. The bill provides for 13 year declining payments by the state to municipalities to help offset losses of property tax revenues from vacant properties due to the implementation of the Pinelands Protection Act. The payments are to be calculated on the basis of the difference between assessments and taxes paid in 1979 and in each of the subsequent 13 years. Senate bill No. 1249 was assigned to the Senate Energy and Environment Committee in March 1982, and A. 1303 was assigned to the Assembly Agriculture and Environment Committee in May 1982. No action has been taken on either of these bills.

In October 1982, Senate bill No. 1791 and companion Assembly bill No. 2039, known as the Pinelands Municipal Property Tax Stabilization Act, were introduced. In its earliest form, this bill simply provided for direct state payments to municipalities located in whole or in part in the Pinelands Preservation Area. These payments were to be based on the current tax rate and the aggregate decline in assessed value of vacant land when comparing the current tax year to the base year, 1980.

Senate bill No. 1791 was reported out of the Senate County and Municipal Government Committee in October 1982, with minor amendments. The bill was then referred to the Senate Revenue, Finance, and Appropriations Committee where it underwent several revisions. The amendments included: 1) basing payments on declines in assessments solely attributable to the implementation of the Pinelands Protection Act; 2) modifying the procedures to include the participation of the county tax boards and a three member board to develop procedures for determining the valuation base and to certify the amount due each municipality; 3) including a five percent tax on recreation facilities in the Pinelands National Reserve to finance the program; 4) establishing a 10 member commission to further study the long-term fiscal and economic impacts of the Pinelands Protection Act; and 5) limiting the time frame of the program to the period through December 31, 1986. This modified version of the bill

was reported out of the Revenue, Finance, and Appropriations Committee in February 1983 and was passed by the Senate in the same month.

Senate bill No. 1791 and A. 2039 were then reviewed by the Assembly Agriculture and Environment Committee, and a substitute bill was reported out in April 1983. Substantive changes included: 1) making any municipality in the Pinelands Area eligible for payments (rather than only Preservation Area towns); 2) basing the calculation of payments on declines in the true value of vacant land and equalized tax rates (rather than assessed values and actual tax rates); 3) conditioning future payments on municipal compliance with the Pinelands Protection Act, i.e. the revision of local master plans and ordinances to conform to the Comprehensive Management Plan; and 4) authorizing a study commission to review the Commission's ongoing analysis of municipal financial impacts.

The substitute bill was referred to the Assembly Revenue, Finance, and Appropriations Committee and was reported out of that committee in June 1983 with an amendment which eliminated the five percent tax on Pinelands recreation facilities and instead provided for financing to come from general revenues through the normal budget process. The substitute bill passed the Assembly on July 11, 1983 and is awaiting final action by the Senate. Since this bill reflects one of the Commission's policy recommendations on municipal finances, it has received the Commission's active support.

2. Payments in-Lieu-of-Taxes

Legislation which would provide for equivalency payments in-lieu-of-taxes on state-owned property in the Pinelands Area has been introduced in both the Senate and the Assembly. Senate bill No. 407 was pre-filed for the 1982 legislative session and referred to the Senate Energy and Environment Committee in January 1982. This bill would supplement the existing Green Acres in-lieu-of-taxes program by providing that: (1) payments do not end after 13 years; and (2) the amount to be paid is based upon current assessments and local tax rates rather than an amount fixed at the time of purchase. In large part, the bill reflects a recommendation contained in the Pinelands Comprehensive Management Plan calling for a full payment in-lieu-of-tax program with the following two exceptions:

- 1) the definition of state property includes less-than-fee interests in land rather than only lands owned by the state in fee; and
- 2) lands subject to the supplemental payment include all lands owned by the state (including non-conservation lands) regardless of when they were purchased

Assembly bill No. 1977, introduced in October 1982, corresponds to the Pinelands Commission's recommendations. This bill was reported out of the Assembly Revenue, Finance, and Appropriations Committee in May 1983. No further action has been taken.

3. Land Compensation

Assembly bill No. 1304 and companion Senate bill No. 1240 provide for a lump sum payment to all landowners in the Pinelands Area whose assessments were lowered following the adoption of the Comprehensive Management Plan. The one-time payment is calculated by taking 75 percent of the difference between the assessed value in 1981 and the assessed value in 1979, exclusive of improvements. Assembly bill No. 1304 was assigned to the Assembly Agriculture and Environment Committee in May 1982, and S. 1240 was assigned to the Senate Energy and Environment Committee in March 1982. No action has been taken on either bill.

4. Economic Study

Senate Concurrent Resolution No. 145, introduced December 6, 1982, creates a 12 member commission to conduct a detailed study of the financial impacts of the Comprehensive Management Plan on all municipalities, counties, school districts and private landowners in the Pinelands Area, and to report its findings and recommendations to the legislature. This resolution was referred to the Senate Energy and

Environment Committee, and no action has yet been taken. The purpose of this resolution, however, has also been incorporated into S. 1791 (see discussion above).

5. Tourism and Municipal Expenditures

In order to provide assistance to municipalities in the disposal of solid waste resulting from recreational activities in the Pinelands Preservation Area, Assembly Joint Resolution No. 51 was introduced in July 1982. This resolution creates an 11 member commission to study and formulate user fees for recreational facilities in the Preservation Area. The revenues derived from these user fees are to be used to reimburse municipalities for excess expenditures related to the cleanup and disposal of solid waste. The study commission would also investigate the need for public sanitation facilities in the Preservation Area and report its findings and recommendations to the legislature. This resolution has been referred to the Assembly Agriculture and Environment Committee. No action has yet been taken.

Table 5.1
Average Price Per Acre¹ by
Management Area and by Time Period

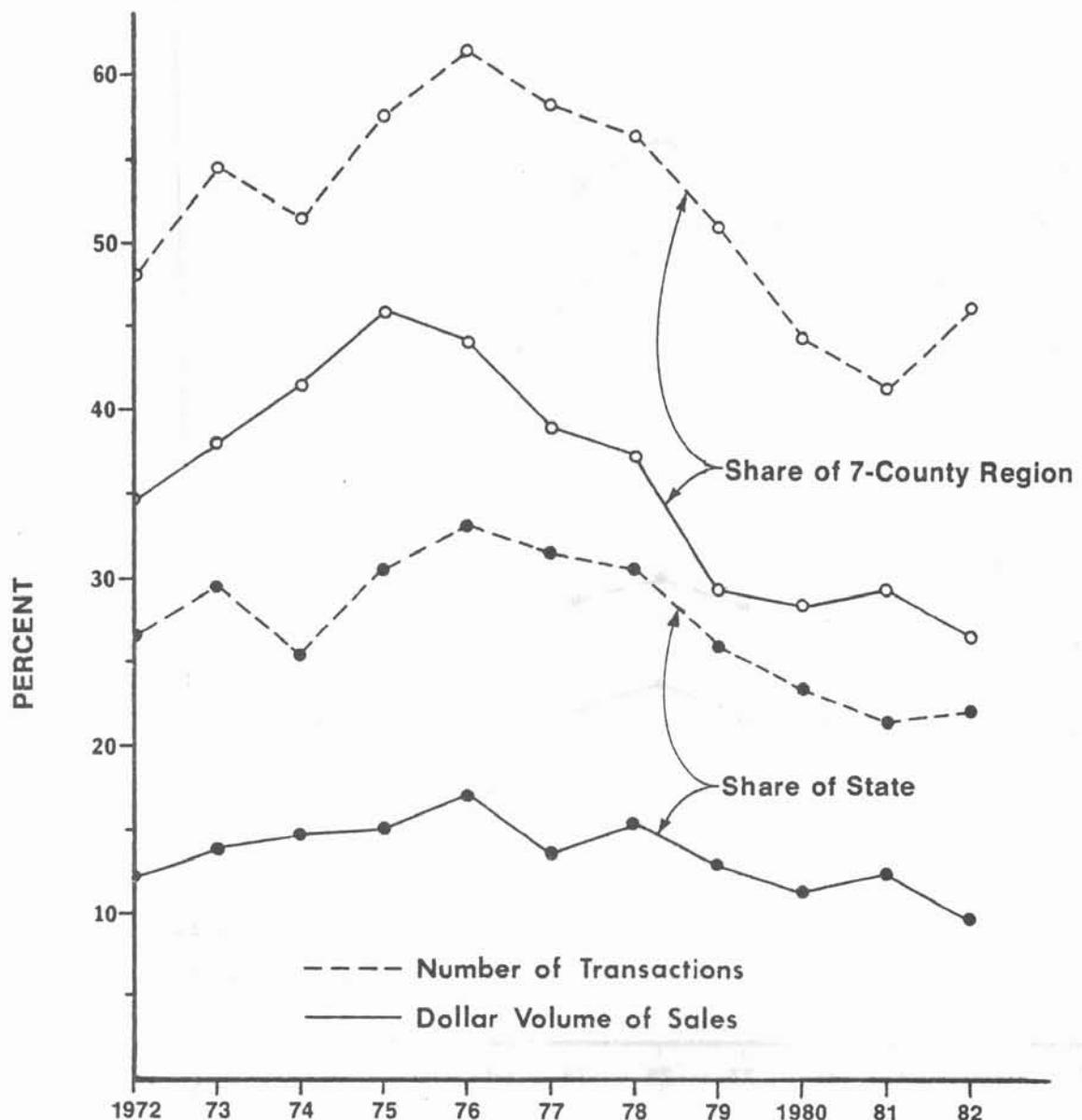
	Pre-Moratorium (1976-1978)	Moratorium (1979-1980)	Post-CMP Adoption (1981-1982)
Outside Pinelands Area	\$2,653 (355)	\$4,273 (283)	\$2,584 (108)
Preservation Area	\$1,592 ² (37)	\$1,821 (10)	\$ 425 (4)
Forest Area	\$1,067 (220)	\$1,384 (72)	\$1,381 (47)
Agricultural Production Area	\$1,792 (64)	\$2,662 (103)	\$2,124 (17)
Rural Development Area	\$1,713 (301)	\$2,966 (116)	\$3,302 (51)
Regional Growth Area	\$2,715 (164)	\$7,127 (75)	\$5,202 (35)
Pinelands Towns	\$3,219 (140)	\$3,541 (66)	\$4,414 (31)

NOTE: Numbers in parentheses indicate the total number of sales in each category.

1. These simple numerical averages are of somewhat limited value in making comparisons across time periods since the sales included in each category may have very different characteristics with regard to the size of the parcel, the availability of public water and sewer, land use, local zoning, and other site-specific variables.
2. While the average price per acre in the pre-moratorium period in the Preservation Area is nearly \$1,600, many of these sales were of small lots (1-5 acres). The Department of Environmental Protection has purchased over 26,000 acres of land in the Preservation Area at an average pre-moratorium price of \$630/acre.

FIGURE 5.1

PINELANDS MUNICIPALITIES SHARES OF VACANT LAND SALES



SOURCE: N.J. Division of Taxation

FIGURE 5.2

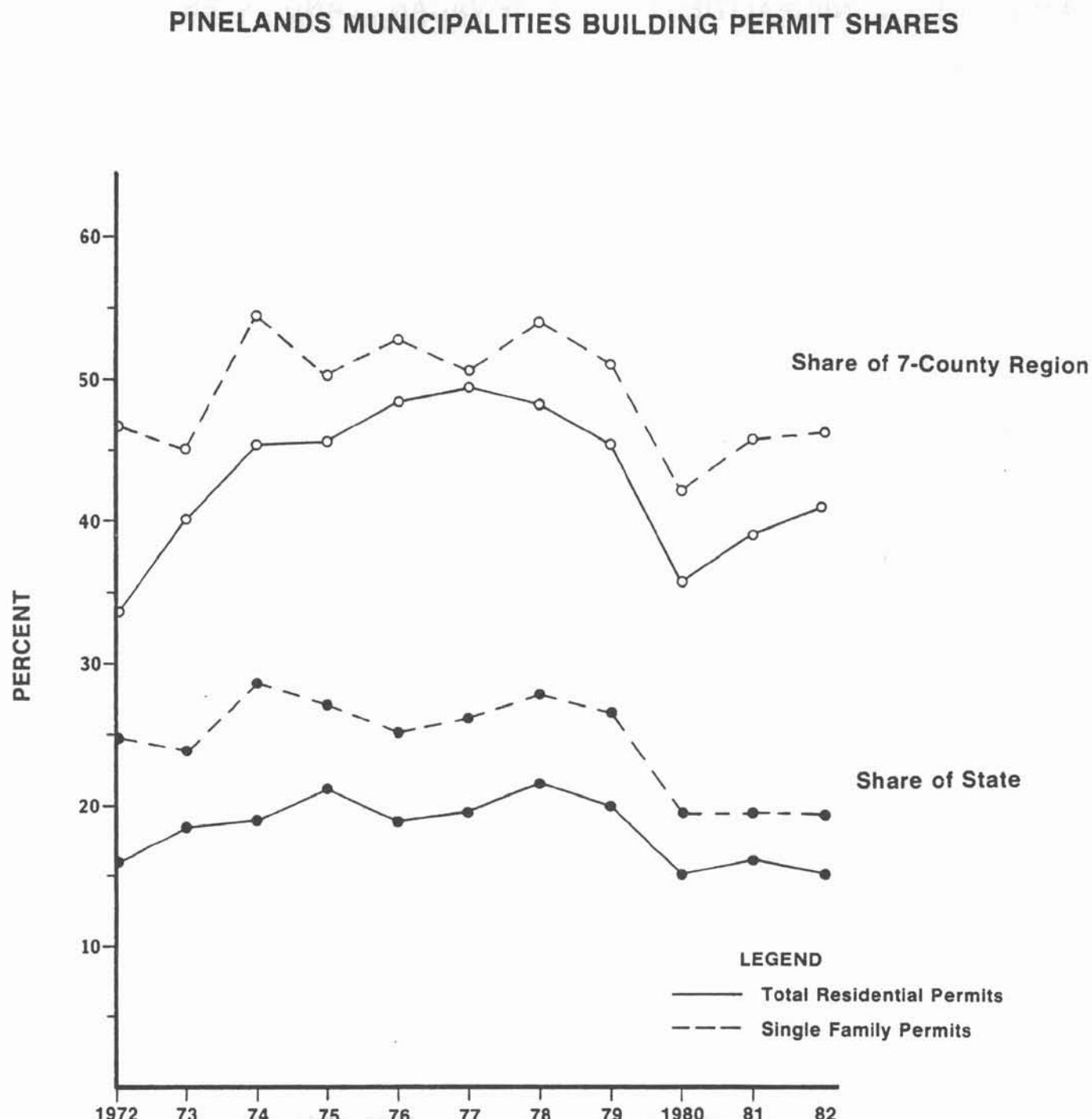
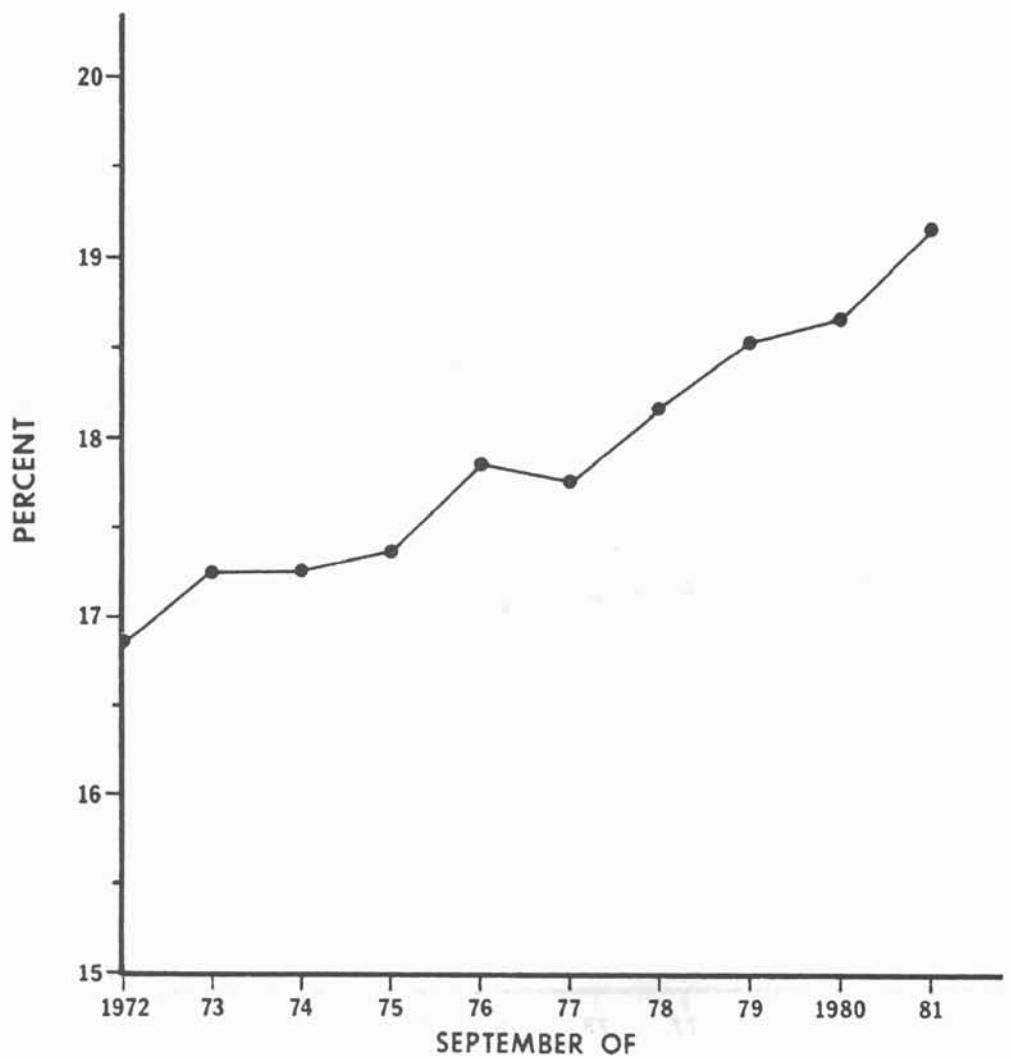


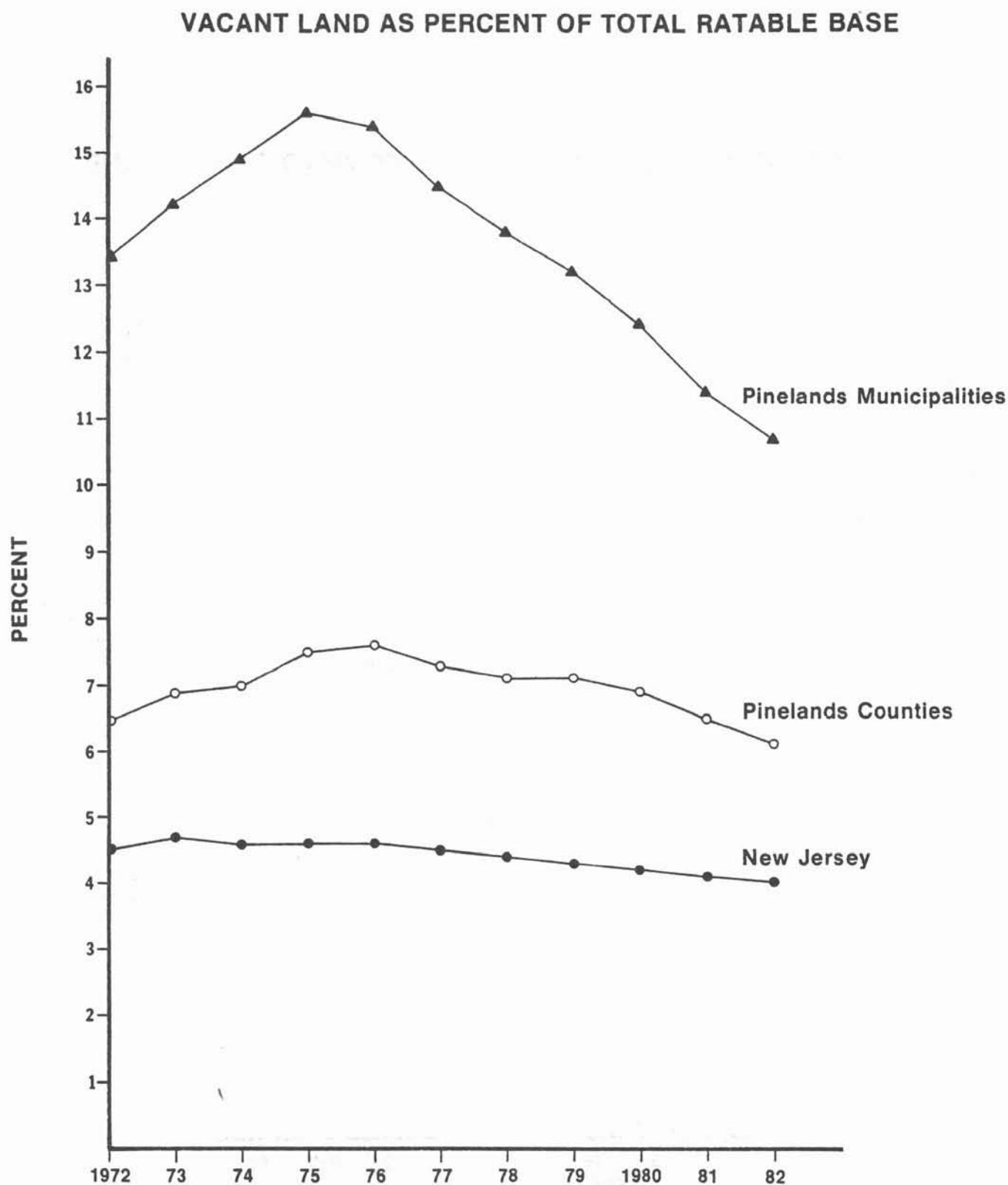
FIGURE 5.3

PINELANDS COUNTIES SHARES OF STATE COVERED EMPLOYMENT



SOURCE: N. J. Department of Labor

FIGURE 5.4



SOURCE: N.J. Department of Community Affairs

V-14

CHAPTER VI

CULTURAL RESOURCES PROGRAM

Article 6, Part 14, of the Comprehensive Management Plan contains provisions for the protection of historic and cultural properties in the Pinelands. These provisions established preservation boards in each municipality with clearly delineated powers and duties, instituted a program to designate particularly significant historic sites, defined standards for this designation process, and required development applicants to obtain a Certificate of Appropriateness before making any alterations to a designated site. These provisions also required cultural resource surveys at all major development sites so that previously undetected historic or prehistoric sites would not be adversely affected.

During the past two years the Commission has carried out this historic preservation program primarily through the development review process. Applicants for major development generally request a Letter of Interpretation to determine the presence of historic and cultural resources on their project site. The staff then evaluates the site's potential to yield significant historical information and determines whether a waiver of the full survey requirement is warranted.

These procedures have proven themselves adequate to protect historically sensitive areas from the more imminent dangers of encroachment by pending development. However, they are essentially reactive in nature rather than anticipatory and do not provide for differential treatment of sites based on their assessed significance. The Commission realized early on the need for a more structured approach to the long-term preservation of historic sites. To that end, work was begun on a cultural resource management plan based on the *Resource Protection Planning Process* circulated in 1979 by the Heritage Conservation and Recreation Service.

The "RP3" model was designed to aid states in evaluating and managing the broad spectrum of historic and prehistoric sites within their jurisdictions. The purpose of RP3, and the ultimate purpose of all preservation planning, is to develop a format which "identifies and organizes information about a State's historic, archeological, architectural and cultural resources into a form and process readily useable for producing high reliability decisions, recommendations and/or advice about identification, evaluation, and protection of these resources."

A draft plan for historic period sites has now been prepared and is being released for detailed public review in association with the Commission's review of the CMP. The major elements of the draft plan are presented below.

Draft Cultural Resource Management Plan

The major element of this process involves the use of the "study unit" concept for organizing material culture. Sites or resources which are functionally related are grouped together and evaluated as a unit for their impact on the evolution of culture. The recommendations for treatment of individual sites within the unit are then based on the assessed significance of the unit as a whole (see Figure 6.1). In this way the preservation planner is able to analyze sites within their cultural context, rather than as discrete entities irrespective of the social and historical patterns around them. What determines a site's significance is the impact of the activity that took place there upon the contemporary society and the site's ability to yield useful information about that activity.

The cultural resource management plan for the Pinelands uses the study unit concept as the basis for organizing and appraising the more than 500 historic period sites listed in the Commission inventory. The historic period is defined by the existence of contemporary written records. In North America, the historic period begins only with the advent of European contact, ca. 1500 A.D. "Prehistory" refers to the entire period of aboriginal occupation, starting roughly about 10,000 B.C. and continuing for approximately 11,500 years. The analysis of remant

physical culture in this country has traditionally been organized according to these two major cultural components. The Pinelands Plan also addresses them separately, and the approach toward each, given the vast differences in extant remains and existing information, is necessarily different. The prehistoric component, which will be completed during the coming year, has a very meager data base. Although more than a thousand prehistoric sites have been inventoried, these must represent only a fraction of all the Amerindian activity that took place in the region in 11 millenia.

The major problems in devising a management strategy for prehistoric sites are locating them and establishing the nature of each, i.e., categorizing the activities that occurred there. Such sites rarely leave more than a vestigial trace at the surface, if any at all, and their existing inventory is not sufficient to determine how they functioned. For planning purposes the most effective way to deal with this large and poorly diagnosed group of resources is to establish a reliable way of predicting probable site occurrence through association with various environmental characteristics. The preservation plan for Amerindian sites will be designed to provide this predictive capacity. Excavations based on this approach, conducted for development approval or through professional research, should yield the desired information about functions at different site types.

Historic period sites lend themselves far more readily to tightly defined study unit groupings since their purpose and physical remnant are generally easier to detect. A good example of this in the Pinelands is the celebrated bog iron furnace and forge sites. The forge/furnace itself and its ancillary structures, the buildings that grew in the settlement around the furnace (workers housing, company store, owner's mansion, etc.) and the peripheral loci of activity directly related to the bog iron industry (collier's mounds, iron mining sites, shipping docks, etc.) constitute a single study unit. The treatment prescribed for elements of these sites flows from an analysis of this rural industry's overall impact on the Pinelands and from their present state of preservation. Thus, because bog iron settlements have had an enormous effect on both the ecology and culture of the Pines, they have a recommended treatment reflective of their high level of significance.

As part of the initial assessment of cultural resources prepared in advance of the Comprehensive Management Plan, a series of study units were defined and submitted to the Commission in 1980. With slight modification these have formed the basis for the "resource groups" (the term used in place of "study units") in the historic period sites plan. The list is not exhaustive, and as the plan is implemented further groupings, or modifications to the existing ones, are likely to be suggested. The present list of resource groups in the plan include:

Agriculture - Agricultural sites include both the berry farms of the central Pinelands and the row crop/truck farms along the periphery of the Pines where the Outer and Inner Coastal Plains meet. Farmsteads from the 17th through the 19th centuries which exhibit intact features reflective of past agricultural practices are targeted for special treatment. Also protected are the network of packing, processing, and distribution sites by which produce was brought to market. Gristmill sites, which are an extension of an agricultural process, are addressed in this section.

Glasshouses - About 28 glasshouses were in operation at one time or another in the Pinelands, most of them south or west of the Mullica River. Glasshouse sites are defined as the entire community of structures and workplaces associated with the production of glass, including the furnace and related mills, the company store, workers' housing, sand mining areas, and product distribution points. Special protective measures are recommended for the actual glass production sites, i.e., the melting furnace and the flattening house.

Iron Forges and Furnaces - In many ways like the glasshouse sites in their social, industrial, and physical development, the bog iron sites are also defined and treated similarly. The entire settlement which the furnace/forge complex spawned is addressed, with various levels of protection prescribed for different features.

Maritime Activities - These sites encompass a wide range of activities such as shipbuilding, shipping, and fishing. Navigational aids and shipwrecks are also included, as are sites where hulks were driven ashore to serve as bank stabilizers. Maritime sites along the coast and up the navigable stream courses of the Pinelands are treated within this resource group, with special attention given to the older and more intact features capable of yielding new information.

Minor Industries - The minor industrial sites of the Pinelands which appear in the Commission inventories include:

multiple site industries	single site industries
-paper mills	-tannery (Medford)
-cotton mills	-turning mill (Chairville)
-wineries	-chair factory (Chairville)
-clay factories	-toy factory (Mizpah)
-collier sites	

Particular attention is given in the plan to the multiple sites, which had the most significant impact, and to industries which were unique to the Pinelands or whose remnant may provide new information.

Railroads and Transportation - The types of sites recommended for protection include railroad-related features such as station houses, maintenance barns and turntables, and components of significant road and waterway routes like bridges, ferry slips, and toll houses.

Sawmills - A recent survey sponsored by the Office of New Jersey Heritage has dramatically increased the number of known sawmill sites in the Pinelands. The sites are defined as comprising not only the mills but also the dam and hydropower system and associated structures.

Settlements - A "settlement" is not a legal entity with specific boundaries like a "township" or "city." In fact, most townships include several settlements. A settlement is a clustering of people and residences, and often workplaces, in a roughly contiguous group that imparts a sense of "place." Its boundaries are simply the outer limits of its built or cleared environment. The recognized settlement types in the Pinelands include:

- milltowns
- resorts
- speculative real estate developments
- ethnic settlements
- religious settlements
- crossroads settlements
- railroad settlements
- stagecoach settlements
- tavern settlements

Vernacular Architecture - As defined in a National Park Service investigation of Pinelands residential architecture undertaken at the Commission's request, vernacular dwellings are those "designed to reflect local tradition, taste and environment and constructed by community craftsmen with local materials." The survey identified a number of indigenous house types and called for differential treatment of them based primarily on age and integrity of design and materials.

Recommendations for treatment of sites are included as a separate section at the end of each resource group. The level of treatment recommended for an individual site within a group varies according to the significance accorded the group in general and according to the site's own physical state of preservation. These recommendations are not broad generalizations but specific minimum procedures which are recommended to ensure that the historic component of a site is adequately documented before it is developed. This section of the plan is particularly intended to furnish guidelines to local planning boards for the protection of their historic and cultural resources.

Though the level of treatment recommended for an individual site is at least partly a function of its present extant state, the significance of the resource group to which the site belongs is also a major factor. Those groups judged to have the greatest intrinsic value both for research and public education are the iron and glasshouse communities. Sites associated with these activities had a seminal influence on the early social and economic structure of the regional culture. It is recommended that those sites which retain a significant portion of their original

plant be left undisturbed, except in extreme circumstances (such as a threat to public safety, a danger of deterioration of historic features, or applicant hardship). In those instances where avoidance is not possible, a Certificate of Appropriateness should be required by the municipal planning board. A similar recommendation is made for pristine examples of regional vernacular architecture from the 18th and 19th centuries. Such sites are exceedingly rare and are among the historic resources that are the most demonstrative of local culture. Of the remaining resource groups, the recommended treatment procedures are more restrictive for well preserved elements of agricultural, maritime, transportation, and settlement sites. Lesser strictures are urged in general for historic components of minor industrial and sawmill sites.

Funding and Assistance

Funding for this first phase of the Pinelands cultural resource management plan, as well as for other aspects of the Commission's cultural resource program, was provided by the Office of New Jersey Heritage with grant moneys allocated from the Historic Preservation Fund (U.S. Department of the Interior). The National Park Service also participated in the formation of this plan by sponsoring a study of vernacular architecture in the Pinelands and by contributing the chapter on planning for public interpretation of historic sites.

A Cultural Resource Management Plan Advisory Committee was formed by the Commission and held its first meeting in June 1983. The committee is composed of representatives from federal, state, county, and municipal governments, technical preservation experts, and private citizens. The immediate purpose of the committee was to review the draft plan and recommend additions, corrections, and changes to the text and treatment guidelines. The committee met two more times, in July and August, and reviewed the entire plan in its present form. The committee will meet again as comments on the draft plan are received and will thereafter broaden its focus to include other cultural resource-related topics of interest in the Pinelands.

Other Activities

The cultural resource program has not been limited to the preparation of a preservation plan for the Pinelands. In accord with the Commission's own agenda for historic research and documentation, and in compliance with provisions of the Historic Preservation Fund grant agreement, a number of other projects have been pursued. Several nominations of Pinelands sites to the National Register of Historic Places have been researched and written, and others are being prepared. One nomination submitted to the Office of New Jersey Heritage is for the Dennisville Historic District which is already a New Jersey State Register site and a Pinelands Plan designated historic site. Boundaries were defined for this district which contains 58 contributing historic structures, one burial ground, and an archaeological site (formerly a sawmill dating to 1812), all of which were inventoried, photographed, and mapped. Another nomination recently approved by the State Review Board is that of the William S. Townsend House, also in Dennisville. This is a ca. 1820 Federal Style frame residence with several later 19th century additions. The house is significant both for its architecture and for several of its occupants who played a prominent role in the political life of Cape May County. A third nomination which has been completed and will soon be sent to the Office of New Jersey Heritage is for the Batsto Historic District. Although Batsto is already on the National Register, the original nomination is considered deficient by present standards. There was no inventory or verbal description of most of the buildings, the photographic record was inadequate, the boundaries were an arbitrary oblong with no historic justification, and the statement of its significance was not sufficiently comprehensive. These shortcomings have all been corrected in the revised submission. A fourth nomination is presently being prepared for Pleasant Mills and the Joseph Clark House ("Kate Aylesford Mansion") which had formerly been incorporated in the Batsto district. Their later history was distinct from Batsto, however, and they rightfully constitute a separate Register site.

To promote and encourage research into the history and culture of the Pinelands, the Commission has sponsored for the past two years an annual "Symposium on Historic Preservation in the Pinelands." These technical conferences, held in the spring of each year at Smithville, Burlington County, are geared for professionals and serious laymen. The day-long meetings begin with an update on the Commission's preservation planning effort for the region. This is followed by a series of speakers who present research papers on various

aspects of Pine Barrens history and prehistory. Topics relating to prehistory over the past two years have included the relationship of Amerindian sites to various environmental features, evidence for contact and trade with other aborigines, and the difficulties of planning for the preservation of such sites. Historic period subjects have addressed the impacts of the bog iron industry on Pinelands culture and ecology, sawyering practice in the Pines, the Estellville glass works, coastal architecture, and the pending survey of contemporary regional culture. The symposia have been attended each year by about 40 participants.

Related to the professional level symposia, but intended for a general audience, is the "Autumn in the Pines" lecture series begun by the Commission last year. Speakers explore the prehistoric and historic development, archaeology, and architectural history of the Pinelands in a manner comprehensible to laymen. The hour-long lectures were held on consecutive Sundays in November last year at Cranberry Hall, Medford. Approximately 100 people attended each of three lectures, and the series has been expanded to four lectures this year.

Since the appointment of a cultural resource specialist to the staff in October 1981, the Commission has also been able to offer technical preservation assistance to Pinelands municipalities. An inventory of historic sites within their jurisdiction, as well as an assessment of the relative significance of those sites, was compiled for Jackson Township and Woodbine Borough during their compliance process. Similar assistance was provided to Dennis Township. Western Berkeley Township was also examined for culturally sensitive sites, and an assessment of those sites was proffered. At the request of the National Park Service, the Commission took a major role in a technical review of proposals for a comprehensive cultural resource survey of Fort Dix and has monitored the execution and results of that survey. The Hamilton Township Historical Commission has also consulted with the Pinelands Commission on several occasions regarding the formation of the local historic district in Mays Landing. Overall, these efforts have aided other staff members and municipal officials in revising master plans and defining historically significant areas.

Development Review

Development review activities have absorbed more staff time than any other aspect of the historic preservation program with the exception of the cultural resource management plan. The Comprehensive Management Plan requires that a cultural resource survey be completed for all major development applications, but this requirement is waived if the initial staff review finds insufficient evidence for further study. This review, which formerly consisted solely of a check of the Commission's cultural resource inventories, now includes a field inspection to determine if previously unrecorded sites are present. Since October 1981, a total of 82 development applications have been reviewed (79 major, 3 minor) with the following results:

- 55 waivers of survey requirement (53 major, 2 minor)
- 27 survey requirements invoked (26 major, 1 minor)

In addition, there have been two Certificates of Appropriateness issued for modifications to a Pinelands Designated site, both involving the Pleasant Mills site.

The criteria that are applied to determine the need for a survey are necessarily somewhat site specific, but generally can be defined as follows:

- confirmed sites: the presence of known historic or prehistoric sites within the project area or its immediate vicinity
- proximate sites: the presence of a series of prehistoric sites in the same general environs as the project area
- massive disturbance: a development project that will cause ground disturbance over a large areal extent
- surficial alterations: alterations to the natural environment caused by historic period cultural activity that cannot be dismissed as historically insignificant
- topographic indications: the presence of topographic features (pingoes, cuestas, surface water course, etc.) commonly associated with prehistoric site occurrence

If a cultural resource survey is deemed necessary, it must be carried out according to guidelines referred to in the Comprehensive Management Plan. These guidelines, adapted for the Pinelands from those used by the Office of New Jersey Heritage, are available for applicants and preservation consultants at the Commission office. They are meant to ensure that a thorough investigation of the site's potential to yield useful information is undertaken prior to construction. Requirements include background research on the natural environment, a literature search of historic and contemporary sources, a surface survey of the site, sufficient subsurface testing to determine the nature and extent of archaeological remains, and a final report evaluating the results. The guidelines also set forth minimum qualifications for the consultants who are to perform the survey. These qualifications, designed to ensure that the principal investigator in a survey project is sufficiently trained in research and field methodology, are derived from the United States Department of the Interior requirements contained in the Code of Federal Regulations (36 CFR 66, Appendix C). At present, 13 surveys have been submitted to the Commission, and all have been judged adequate to satisfy Plan provisions.

Interagency Cooperation

In order to clearly delineate the duties and responsibilities of public agencies involved in the management of Pinelands historic sites, a memorandum of agreement was drafted by the Advisory Council on Historic Preservation. As one of those agencies, which also includes the Advisory Council, the National Park Service, and the Office of New Jersey Heritage, the Commission reviewed the draft and noted the need for a few minor corrections. These corrections have since been made, and the memorandum is presently awaiting formal review by the parties.

The Commission has cooperated with other public agencies that are sponsoring projects that benefit the cultural resource program in the Pinelands. The National Park Service has undertaken a survey of regional historical organizations in order to assess the present state of local historic sites management and to suggest cooperative ventures and measures to enhance public understanding and appreciation of these sites. One of the results of this study is a chapter in the cultural resource management plan dealing with the interpretation of historic sites. The American Folklife Center (Library of Congress) has begun a major survey of contemporary culture in the Pinelands. The study is designed to identify cultural subregions in the Pines and to pursue ethnographic case studies within those subregions. The Commission is providing logistical support and will aid the Folklife Center in securing grant funds to carry out the project.

Continuing Activities

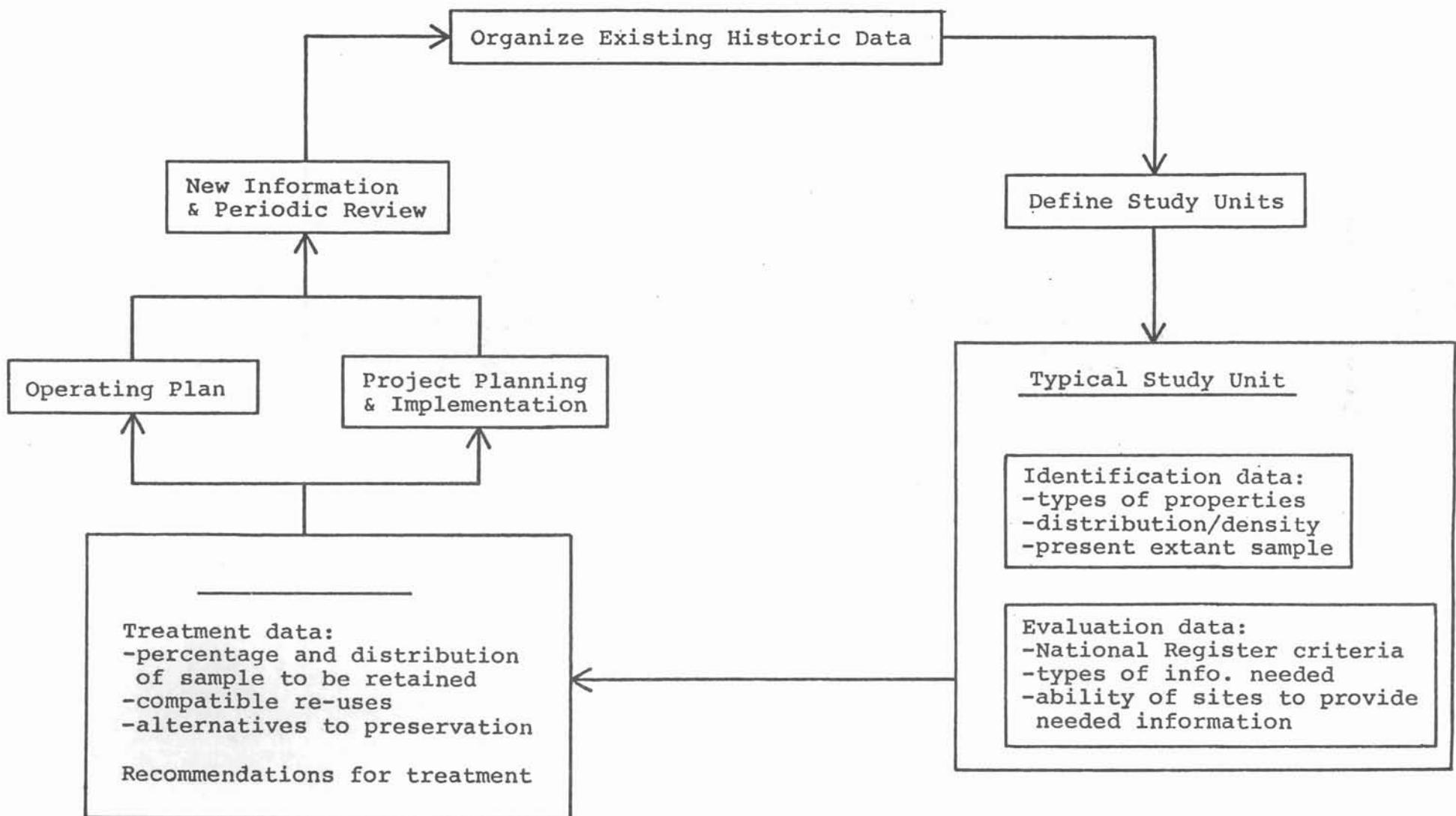
During the next year the primary goal of the cultural resource program will be to complete the prehistoric component of the management plan. The development review process will eventually benefit from the adoption of the plan's prehistoric site predictive model. Decisions as to when to require surveys will be based on the probability expressed in this model. The surveys that are generated will be used as a test to refine the model and should begin to generate critically needed information about the scope of activities at various prehistoric site types. Another planned activity is the completion of a comprehensive research design meant to identify outstanding information which should be specifically addressed in the investigation of historic sites. The design will also establish research priorities based on the current data base and suggest the types of sites which should be studied first. A model historic district ordinance for Pinelands municipalities will be drafted and added as an appendix to the plan.

Current research and public involvement programs will be continued over the next year. A third professional symposium will be held in the spring, and the public lecture series will be held again next autumn. The Cultural Resource Management Plan Advisory Committee will be transformed into a standing technical committee to monitor plan progress and suggest topics for the constantly evolving research design.

The exploitation of historic sites, both for research and public edification, is a long-term goal of the cultural resource program. The National Park Service is working with the Commission, the Department of Environmental Protection, and interested citizens in developing interpretive themes and techniques for Pinelands sites. Once the themes have been fully defined, their implementation will be one of the objectives of the Commission's program.

Figure 6.1

CULTURAL RESOURCE MANAGEMENT FLOW CHART



Chapter VII

STUDIES PROGRAM

Introduction

During the development of the Comprehensive Management Plan the Commission undertook a studies program to ensure that the best available scientific, cultural, social, and economic information was used in the Pinelands planning process. It was recognized at that time that to effectively implement the Plan there would be a continuing need to gather additional information. In response to this need, the Commission established an ongoing studies program to further assess the impact and effectiveness of the Plan and provide the basis for refining and improving it. Much of the guidance for the development of this program has been derived from the study recommendations outlined in the Plan.

The Commission's Work Plan Subcommittee is directly responsible for developing and implementing the studies program. Recommendations from the full Commission, Commission staff, the general public, and the academic community are considered by the subcommittee when identifying study topics and priorities. Final decisions on project choices are based on both need and the availability of resources.

Once research topics are identified, specific scopes of services are prepared and reviewed by the Work Plan Subcommittee. The subcommittee has the additional role of evaluating the results presented in the completed studies and determining if suggested changes to Commission policies and programs are warranted by the study findings.

The Rutgers University Technical Advisory Committee, composed of natural and social scientists with expertise in Pinelands-related topics, has also played an important role in developing and implementing the studies program. Working cooperatively, the Commission and the Technical Advisory Committee concluded that there was a need for a Pinelands research clearinghouse whose function would be to identify research topics, initiate and coordinate their study, and encourage and facilitate independent Pinelands research. The Division of Pinelands Research, a branch of the Rutgers Center for Coastal and Environmental Studies, was established to carry out this function.

One of the many activities undertaken by the Division of Pinelands Research was the organization of a scientific research conference which was held in April 1982. Thirty-five researchers and managers from universities and government agencies met to develop recommendations for an organized collection of ecological and environmental information about the Pinelands. The conference focused on four major areas of environmental management: 1) ecosystem fragmentation; 2) fire management; 3) nutrient dynamics; and 4) hydrology and water quality. The results of the conference are presented in *Ecological Solutions to Environmental Management Concerns in the Pinelands National Reserve: Proceedings Of A Conference*, a report prepared by the Division of Pinelands Research and published by the Center for Coastal and Environmental Studies. The report was prepared to help the Pinelands Commission identify research needs and priorities.

To date, the Work Plan Subcommittee has developed a studies program which has resulted in Commission initiation or involvement in 16 study projects. These projects are:

1. the economic monitoring program
2. the cultural resource management plan
3. analyses of water quality data for the Pinelands
4. an assessment of current water monitoring efforts in the Pinelands
5. the development of a preliminary biological water quality index
6. an assessment of a proposal to store natural gas in the Pinelands
7. an evaluation of septic systems for effectiveness in contaminant abatement
8. a review of infrastructure needs in Pinelands Regional Growth Areas

9. an evaluation of the resources and protection alternatives for the Forked River Mountains
10. an evaluation of the continuing use of sand roads on state lands in the Pinelands
11. the preliminary testing of a water and land resource analysis system (WALRAS)
12. the compilation of literature sources for natural resources of the Pinelands
13. the compilation of literature sources for historical and cultural resources of the Pinelands
14. a wetlands impact assessment and the development of a model to delineate wetland buffers
15. reclamation options for sand and gravel mining
16. the Warren Grove target range management plan

The first eight projects were undertaken directly by the Commission and are estimated to cost approximately \$230,000 through the end of June 1984. Nearly \$82,500 of that amount will be provided through grants from the Federal Land and Water Conservation Fund and the Historic Preservation Fund. The Forked River Mountain and sand road study projects are being carried out with the help of citizens committees. The WALRAS evaluation and literature compendiums were undertaken by Rutgers University with federal and foundation support at no cost to the Commission. The wetlands impact assessment completed by the Division of Pinelands Research was financed by the Commission and several private foundations. The sand and gravel study and the Warren Grove plan are being completed under the auspices of the National Park Service, also at no cost to the Commission.

Although much has been accomplished, more studies need to be done. Dozens of important study topics identified by the Plan, citizens groups, and municipal officials have not been initiated; yet increasing budgetary constraints will greatly limit the Commission's ability to undertake them directly. Therefore, the ongoing success of the continuing study program rests in the Commission's ability to stimulate interest in independent studies that are important to the future of the Pinelands and to secure financing for studies from sources outside the state budgetary process.

Water Quality Analysis

The quality of the region's ground and surface waters represent one of the most fundamental and important planning issues in the Pinelands. The Comprehensive Management Plan, on the basis of studies undertaken before the Plan's adoption, considered the relative quality of the area's water resources in defining land management areas and appropriate levels of development for them.

The Plan also included a standard to gauge maximum acceptable levels of site-specific pollution generated by individual developments in the Pinelands. The key parameter selected was nitrate-nitrogen, and the acceptable level was set at 2 parts per million (ppm). At the time the Plan was adopted, nitrate-nitrogen was identified by consultants to the Commission and the New Jersey Department of Environmental Protection (DEP) as a key indicator of water quality in the Pinelands. In fact, the DEP adopted the 2 ppm standard in 1978 as part of its Central Pine Barrens Water Quality Standards.

Following the adoption of the Comprehensive Management Plan, the Commission staff continued to analyze available data on water quality and issued a report on this analysis in September 1981.

Analysis and Results

Water quality data was obtained from the STORET computer data retrieval system of the New Jersey Department of Environmental Protection, Division of Water Resources. Additional surface water data were collected by Dr. James Durand of Rutgers University. Seventy-six surface water quality sampling stations were selected for this analysis out of 182 stream water quality sampling points in and adjacent to the Pinelands. Some of the guidelines used to select the sampling points required a drainage area smaller than 50 square miles and basins which represent different land uses. At least 10 nitrate-nitrogen samples were taken at each site.

Seven sampling stations were chosen on the Toms River, all of which were in the Protection Area; three were chosen in Cedar Creek, two of which were in the Preservation Area and one in the National Reserve; two were chosen on the Forked River, both of which were in the Protection Area; one was chosen on Cedar Run in the Protection Area; two were chosen on Westecunk Creek, both of which were in the Protection Area; three were selected on Mill Creek, all three were in the Protection Area; one was chosen on Tuckerton Creek in the Protection Area; eight were selected on the Atsion-Sleeper Branch of the Mullica Basin, seven of which were in the Protection Area and one in the Preservation Area; one site was chosen on the Bass River of the Mullica Basin in the Preservation Area; four sampling sites were selected on the Batsto River in the Mullica Basin, three of which were in the Preservation Area and one in the Protection Area; three sampling sites were chosen on Hammonton Creek of the Mullica Basin, all in the Protection Area; two sites were chosen on the lower Mullica River of the Mullica Basin in the Protection Area; four sites were selected on Nescochaque Creek of the Mullica Basin, all of which were in the Protection Area; one site was selected on the Oswego River of the Mullica Basin in the Preservation Area; one site was chosen on the Wading River of the Mullica Basin in the Preservation Area; 13 sampling sites were chosen in the upper reaches of the Great Egg Harbor River, 10 of which were outside the Pinelands, and three of which were in the Protection Area; two sample sites lay along the Lower Great Egg Harbor River in the Protection Area; two sites were located on the Tuckahoe River in the Protection Area; one was chosen on the Maurice River in the Protection Area; five were located on the Southwest Branch of the Rancocas Creek, four of which were in the Protection Area and one outside the Pinelands; five were located on the South Branch of the Rancocas Creek, two of which were in the Protection Area and three in the Preservation Area.

For each sampling site, the Department of Environmental Protection provided a listing of all data contained in the STORET file for the following parameters: date, time of sample collection, water temperature (degrees celcius), stream flow (instantaneous), pH (standard units), total non-filterable residue (mg/l), dissolved nitrate-nitrogen (mg/l), total phosphorus (mg/l), fecal coliform, and total alkalinity as calcium carbonate (mg/l).

Of the above parameters provided by the STORET file and Durand's data, only pH and composite nitrogen (that is, nitrite and nitrate-nitrogen) were subjected to statistical analysis. The Mann-Whitney Non-Parametric Analysis indicated that:

1. the existing pH and nitrate-nitrogen concentrations for the Preservation Area **are not** significantly different at the 0.05 level of significance than the concentrations of these parameters in the Protection Area
2. the existing pH values and nitrate-nitrogen concentrations for the Preservation and Protection Areas are significantly different from those in an area adjacent to and outside the Pinelands boundary
3. the ambient water quality in the Pinelands National Reserve has a 90th percentile value for nitrate-nitrogen of 1.04 mg/l (this means that 90 out of a 100 samples had a nitrate-nitrogen concentration of 1.04 mg/l or less).

Conclusions

The report concluded that the 2.0 ppm (mg/l) Critical Area nitrate-nitrogen water quality standard was, in fact, appropriate for the entire Pinelands Area, i.e. both the Protection and Preservation Areas. This report also indicated that the 90th percentile nitrate-nitrogen value for 1,170 samples in the Preservation and Protection Areas is 1.04 mg/l. Upon review of the Commission's analysis, the director of the Division of Water Resources, Department of Environmental Protection, indicated that the Pinelands Commission demonstrated statistically that the ambient quality for freshwater in the entire Pinelands Area for the parameters pH and nitrate-nitrogen was within criteria limits established by the FW-Central Pine Barrens Water Quality Standards. Since that time, the DEP has eliminated its review of most development proposals in the Pinelands. Although the 2 ppm nitrate-nitrogen standard is still in effect, the DEP is of the opinion that the reviews now being conducted by the Pinelands Commission and county health department are sufficient to ensure that the standards are met. Only in cases

where alternative design or experimental septic systems are proposed must the Division of Water Resources approve the system's design. However, the division must still review applications for developments of 50 or more homes using any kind of septic system.

Wetlands Impact

Wetlands contribute significantly to the essential character of the Pinelands. These lowland areas, including both inland and coastal lands, comprise approximately two-thirds of the region and possess a number of critical cultural and ecological values which contribute to the maintenance of the Pinelands ecosystem. In recognition of their importance, the Commission included a wetlands management program in the Comprehensive Management Plan to ensure that the long term integrity of these resources are protected.

The Plan's wetlands management program defines wetlands, identifies permitted, regulated, and prohibited uses, describes development-related impacts, and requires the establishment of transition areas between wetlands and certain types of upland developments. The purpose of this transition area, or buffer, is to reduce development impacts and prevent an irreversible effect on the ecological integrity of a wetland.

A Commission sponsored study which proposes a method to determine minimum buffer widths for specific developments has recently been completed. The results of this study are presented in *Wetlands of the New Jersey Pinelands: Values, Functions, Impacts, and a Proposed Buffer Delineation Model*, a report prepared by Dr. Charles Roman and Dr. Ralph Good of the Rutgers Division of Pinelands Research.

The report describes wetlands vegetation and soils and reviews their values and functions. Development-related impacts are described and assessed, and a wetlands buffer delineation model is proposed. This model is based on an evaluation of wetland quality and an assessment of potential development-related impacts.

Vegetation and Soils of Pinelands Wetlands

Roman and Good describe six wetland vegetation types. These are Atlantic white cedar swamps, hardwood swamps, pitch pine lowlands, shrub-dominated wetlands (bogs), herbaceous inland marshes, and coastal tidal marshes. These descriptions, which were based on a review of the literature on Pinelands vegetation, are consistent with the wetlands definitions in Article 6, Sections 6-104 and 6-105 of the Plan. An additional forest type is included, the lowland/upland transition forest, which is described as a continuum between upland and wetland communities.

A discussion on hydric or wetland soils is given. These are described as soils which are classified as poorly drained and very poorly drained by the Plan and the U.S. Soil Conservation Service. Dominant hydric soils identified in the report are Muck, Pocomoke, Berryland, and Atsion. Klej, Lakehurst, and Hammonton are described as transitional soils.

Wetland Values and Functions

The study concludes that Pinelands wetlands provide several values and functions which are essential to the maintenance of the region's environmental quality. Hydrologic, food web, habitat, and cultural values and functions are described.

Hydrologic values and functions which are described include flood and storm water control and water quality maintenance. Roman and Good conclude that while flooding is not a regional problem in the Pinelands, wetlands may play an important role in flood control within developed watersheds. They consider the nutrient retention and removal function of wetlands to be essential to the maintenance of the Pinelands' exceptional water quality. Differences in relative value among wetlands which exhibit varying characteristics (e.g. wetlands soil type, vegetation, hydrologic regime) are also discussed. A similar discussion is provided for each of the other values reviewed.

Wetland food web values and functions which are addressed include both primary production and secondary production. The value of Pinelands wetlands as habitat for fish, reptiles, amphibians, birds, mammals, and especially threatened and endangered plant and animal species, is documented.

Historically, local inhabitants have relied heavily on the region's natural resources. An appreciation of these resources has also evolved at the state and national level, resulting in the recognition of socio-cultural values. Important wetland cultural values are described in the report and include wetland harvesting (i.e., shellfishing, berry farming, lumbering, trapping, hunting, and fishing). Less tangible wetland values such as those related to aesthetics, recreation, education, research, and history are also presented.

Man's Impact On Wetlands

This portion of the study provided the framework and background information necessary for the development of the impact assessment model. The report concludes that historical impacts have in part provided a shaping influence on the character of the present day Pinelands landscape, and that in contrast, the impacts of present day development on Pinelands wetlands are more severe and result in a nearly irreversible loss of the resource.

Among those impacts described are long term changes in the water table which can result in changes in vegetation structure and composition, causing a reduction in wetland food web support and habitat functions. The surface water of Pinelands wetlands are characterized as nutrient poor and acidic with low suspended sediment levels. Development-related water quality degradation would reduce the ability of Pinelands wetlands to support the existing, unique, biotic assemblage which has adapted to the stressful environment of characteristic Pinelands waters.

Proposed Buffer Delineation Model

Except for a few specific, conditional uses (e.g., public utilities, docks, and piers), the Plan prohibits development on wetlands. Protection of wetlands resources is enhanced by the additional requirement that a transition, or buffer, area be established between any development and a wetland. A mandatory 300 ft. buffer is required unless it can be demonstrated that the establishment of a lesser buffer will not result in a significant adverse impact to the adjacent wetland.

In their report, Roman and Good concluded that it is necessary to maintain a vegetated and relatively undisturbed buffer area between wetlands and upland development to ensure the protection and preservation of a wetland community. They present a proposed buffer delineation model to assist applicants, the Pinelands Commission, and local regulatory agencies in determining site-specific situations when it would be appropriate to maintain a 300 ft. buffer or reduce the buffer to some degree while ensuring that no significant adverse impact to the wetland will occur. The model was developed to be applied within the framework of the Plan and must be subjected to extensive field verification before it is applied. It recognizes wetlands values and functions, assesses the potential for impacts on wetlands which are related to development activities, and considers the differences in land use intensities among the various land capability areas.

The proposed buffer delineation model applies a sequential decision making process. The initial step is the review of six special case buffer delineation guidelines which relate to situations deserving particular attention. The intent, rationale, and documentation is given for each guideline. The reviewer must determine if any of these special cases apply to the specific project in question.

The six special cases concern development in the Preservation Area District, development related to resource extraction, the use of on-site domestic wastewater treatment systems, development adjacent to a cedar swamp or a surface water body or herbaceous inland marsh, and development in a residential infill area. A 300 ft. buffer is recommended for all permanent development activities proposed for the Preservation Area District, between all Pinelands wetlands and resource extraction activities or septic leach fields, and between any permanent development and cedar swamps, a surface body, or a herbaceous inland marsh. Buffers assigned to projects considered infill-type development may be compatible with adjacent and nearby existing buffers, but should not be less than 50 ft.

If the special case buffer delineation guidelines do not apply to a specific project, the reviewer or evaluator proceeds to the land capability areas buffer delineation procedure. Using this procedure the reviewer first assesses the relative values and functions of the affected wetland. A wetland site review area, which is generally less than one acre but greater

then 10,000 square ft., is delineated along with a larger wetland area defined as the total area of the wetland which is not fragmented and which represents an individually discrete wetland unit. The wetland area should be at least 200 acres. The evaluation is based on the existing quality of the wetland (in terms of vegetation composition and water quality), relative water quality maintenance attributes, wildlife habitat value, and sociocultural value. Each of these factors is measured using several ranked criteria. The overall wetland value of a particular wetland area adjacent to a proposed development site is determined by assessing the five factors and assigning a relative score to each. These scores are averaged and an overall relative wetland value index is derived which can be translated into a high, high to moderate, moderate to low, or low value ranging between 1.0-3.0. The overall score may be increased by one numerical unit if the wetland area is known to support populations of threatened and endangered species.

Determining the impacts associated with a proposed development is the second major component of the land capability areas buffer delineation procedure. Three factors are evaluated. These are the potential for site-specific wetland impacts, the potential for cumulative impacts on a regional basis, and the significance of watershed-wide impacts. As with the wetland value index, each of the factors are measured using several ranked criteria which address the intensity of a development, the regional setting, and adjacent land uses and resources. The final scores obtained for each of the three factors are averaged to derive a relative potential for impacts index which can be translated into four classes ranging from a high potential for impacts (3.0-2.6) to a low potential for impacts (1.5-1.0).

The final step of the land capability area buffer delineation procedure is the assignment of an appropriate buffer area. A buffer delineation index is derived by averaging the relative wetland value index and potential for impacts index. This index is then translated into an actual buffer distance. The size of the assigned buffer is related to the land capability area in which the project is located. The relationship between the index and the assigned buffers is shown in the following table taken from Roman and Good's report.

Table 7.1.

Relationship Between the Buffer Delineation Index and Actual Buffer Distances for Pinelands Land Capability Areas

Land Capability Areas	Buffer Index	Buffer Distance (ft.)
Forest Areas and Agricultural Production Areas	3.0	300
	2.5	275
	2.0	250
	1.5	225
	1.0	200
Rural Development Areas and some Villages/Towns	3.0	300
	2.5	250
	2.0	200
	1.5	150
	1.0	100
Regional Growth Areas and some Villages/Towns	3.0	300
	2.5	240
	2.0	175
	1.5	110
	1.0	50

Summary

This study describes the significant values and functions of Pinelands wetlands and emphasizes that their protection is necessary for the long term maintenance of the Pinelands ecosystem. A methodology is presented to use scientific principles to consistently evaluate wetland sites and assess the impacts associated with development activities, and based on these assessments, assign an appropriate buffer which will protect the integrity of the wetland.

An important next step is the implementation of a field verification program to test the model's effectiveness. This is necessary before the model can be applied to the management of the region's wetlands. The testing program is currently being conducted. If the verification program proves successful, the model will be invaluable to applicants, municipalities, and the Pinelands Commission as a means of assessing more specifically what circumstances would require a 300 ft. buffer and which would permit a reduction in the 300 ft. transition requirement.

Biological Water Quality Index

Pinelands waters, typically acidic and nutrient poor, support aquatic communities of plant and animal species which have evolved in and adapted to these stressful conditions. These same conditions prevent colonization by less tolerant non-Pinelands species. Changes in water quality have been suggested as one of the reasons for the modification of characteristic communities resulting from the establishment of non-native species in some Pinelands waters. This relationship was investigated in the Commission's biological water quality index study which compared aquatic species composition and diversity in disturbed and undisturbed Pinelands waters. This project was carried out by a group of investigators from Rutgers University, Dr. Mark Morgan, Dr. Robert W. Hastings, Dr. G. William Wolfe, and Kurt R. Phillip who prepared a final report entitled *A Comparison of Aquatic Species Composition and Diversity in Disturbed and Undisturbed Pinelands Waters*.

Study Summary

The purpose of the study was to describe the physical, chemical, and biological characteristics of six Pinelands streams as a means of developing a biological water quality index. The six streams were characterized as undisturbed (low pH and nitrate-nitrogen levels) and disturbed (elevated pH and elevated nitrate-nitrogen levels). Disturbed and undisturbed streams were chosen in pairs within the same watershed to facilitate comparison among streams. The pairs were: 1) Sleeper Branch and Albertson Brook (Mullica River); 2) Skit Branch and Springers Brook (Batsto River); and 3) Burrs Mill Brook and Friendship Creek (South Branch Rancocas Creek).

The study period extended from March 1982 to February 1983. Water sampling was done on a monthly basis, and water temperature, dissolved oxygen, alkalinity, pH, ammonia-nitrogen, nitrate-nitrogen, total phosphorous, conductivity, total dissolved solids, and stream velocity and discharge were measured. Both macrophytes and aquatic insects were sampled monthly, algal samples were collected bimonthly, and fish sampling was conducted on a seasonal basis. The results of the study are discussed here.

The investigators report that average pH, nitrate-nitrogen and alkalinity values differed significantly between disturbed and undisturbed streams. The average pH and nitrate-nitrogen values for disturbed streams were 5.9 and 426 ug/l (0.426 ppm), respectively. The pH of the three undisturbed streams averaged 4.3, and the mean nitrate-nitrogen value was 19 ug/l (0.019 ppm). No other parameters demonstrated a statistically significant difference between these two classes of streams. Therefore, the investigation concluded that observed differences in biota can be more confidently related directly to differences in pH, nitrate-nitrogen, and alkalinity.

Fifty algal species were collected in the six study streams. Twenty-eight of these were found restricted to one of the two stream types. Algal species richness, i.e. the total number of species present, was found to be significantly greater in disturbed streams. Diversity, a measure which relates the total number of species to their relative abundance, was also greater in these streams. The investigators indicate that this response to disturbance is probably related to the elevated pH which allows intolerant, non-Pine Barrens species to

colonize these habitats. They also suggest that increased nitrate-nitrogen levels may be at least partially responsible for the observed differences. Although differences in species between stream classes were observed, these differences are not clear, and it is therefore difficult to characterize algal assemblages as disturbed or undisturbed. The authors do note that a number of species may be more characteristic of one stream type than another. Eight key species are classified as being characteristic of disturbed conditions, and six are associated with undisturbed conditions.

Dr. Morgan and his collaborators suggest that a major effect of disturbance appears to be a shift in species dominance. Two key species which are indicative of undisturbed streams are identified along with three disturbed stream species. A number of other species are apparently also restricted to one stream type, and there also appears to be a significant incursion of non-Pinelands species into the disturbed streams.

A total of 147 species of insects excluding Diptera (flies) were recorded for the six streams. Species richness is somewhat higher in disturbed streams. Certain key species of beetles and caddisflies were prevalent at the disturbed streams while species of stoneflies and dragonflies appeared more indicative of undisturbed streams.

The response of fish to disturbed and undisturbed conditions was more subtle. Both stream types supported characteristic Pinelands species; however, the presence and abundance of tessellated darter and golden shiner, two peripheral species, are associated with disturbed conditions along with a general decrease in the abundance of characteristic species such as eastern mudminnow, blackbanded sunfish, banded sunfish, mud sunfish, and redfin pickerel. It is also concluded that there appears to be a shift in dominance among the characteristic Pinelands species from those which are somewhat restricted to the region to species which are widespread throughout New Jersey.

Finally, it is suggested in the report that while differences between disturbed and undisturbed streams are significant, they are not as dramatic as might be expected because of the magnitude of differences in pH and nitrogen. The investigators relate this response to similarity low total phosphorous concentrations which may be considered limiting. It is not clear why phosphorous concentrations are low, and a suggestion is made that the fate of this nutrient be investigated.

In summary, the study demonstrated significant qualitative and quantitative differences between disturbed and undisturbed streams. Differences in the biota of undisturbed streams and disturbed streams are attributed to differences in pH, nitrogen, and alkalinity. Key species have been described, but the authors recommend that the general use of these species as biological indicators of water quality should be rigorously tested on a regional basis by comprehensive surveys of a large number of Pinelands streams.

Underground Storage of Natural Gas in the Pinelands

In the spring of 1982, a geological test boring operation designed to determine the feasibility of storing natural gas underground was undertaken in Stafford Township, Ocean County. The operation was initiated by Bowman Development Ltd. of Calgary, Canada, in cooperation with the New Jersey Natural Gas Company. Although two test wells were developed, only one successfully reached the target depth, nearly 4,000 feet below the surface. Data obtained from this test well suggested the existence of suitable conditions for the underground storage of natural gas, but the New Jersey Natural Gas Company subsequently concluded that the cost of determining the extent of the subsurface structure was prohibitive and the project was abandoned.

The interest in developing a subsurface natural gas storage facility in the Pinelands raised concerns regarding both the potential environmental impacts and the consistency of such a project with Plan provisions. At the Commission's request, the staff and Edward Rhodehamel, a consulting hydrogeologist, prepared a technical memorandum entitled *Summary of Issues Associated With the Development and Operation of a Subsurface Gas Storage Facility in the New Jersey Pinelands*. This memorandum presents scenarios describing the development and operation of an underground storage facility in the Pinelands, identifies issues related to the potential environmental impact of such an operation, and evaluates the consistency of an underground gas storage facility with Plan provisions.

Several environmental issues associated with the development and operation of a Pinelands storage facility and ancillary equipment and structures (such as pipelines) are identified in this report. Among them is the potential for the degradation of surface and ground waters resulting from the cumulative effect of environmental impacts such as the introduction of contaminants resulting from the use of well additives, erosion, and the introduction of natural gas and impurities into the aquifer. The potential for regional impacts is also noted. Other issues identified are the possible creation of an irreversible effect on the ecological integrity of wetlands, removal of natural vegetation, landscape fragmentation, potentially negative effects on threatened and endangered plant species, and the destruction of wildlife habitat. However, it is suggested that some habitat modifications which may occur could have beneficial effects on some plant and animal species. The potential for air quality degradation and accidental fires is also described. Lastly, it is concluded that because of the nature of land disturbances associated with facility development, the probability of encroachment upon prehistoric resources is relatively high.

Environmental officials in New York, Pennsylvania, Maryland, Minnesota, Illinois, Michigan, and Iowa were contacted to discuss their experience with underground gas storage facilities. Most of these facilities were developed in depleted natural gas reservoirs and were not aquifer storage operations similar to the type which would be developed in the Pinelands. A general concern identified by these officials was the potential for gas leakage from the target reservoir.

The memorandum concludes that resource extraction, a use permitted in the Plan, does not include the production or extraction of natural gas or petroleum. Because of the potential for misinterpreting the definition of resource extraction, it is suggested that the definition be amended to clearly present this intent.

Based on the available information, Rhedehamel and the Commission staff determined that neither natural gas storage nor natural gas processing can be considered compatible land uses in any Pinelands land capability area. They concluded that until detailed information, project design, and environmental analysis is provided by a potential applicant, and until the integrity of the Pinelands environment can be ensured, storage-related activities must be considered inconsistent with the intent of the Plan.

Compendium

In May 1981 the Commission staff met with representatives of Rutgers University's Technical Advisory Committee to develop a program to coordinate and assist scientific and cultural research in the Pinelands. One of the major discussion topics was an assessment of past and current research. Rutgers subsequently established the Division of Pinelands Research which, in cooperation with the Commission, prepared *Compendium of New Jersey Pine Barrens Literature*, a *Compendium of Archaeological, Cultural and Historical Literature of the New Jersey Pine Barrens*, and a *Survey of Current Research in the New Jersey Pine Barrens*.

The *Compendium of New Jersey Pine Barrens Literature* is an annotated bibliography of scientific literature about the Pinelands. It provides an accessible reference system for this literature and identifies current research needs. This compendium contains a complete bibliography of literature citations, and annotations are provided for the more recent and significant literature. The six topics covered by the compendium are: 1) botany, including agriculture, forestry, microflora and paleobotany; 2) geology and soils; 3) hydrology and water chemistry, including surface water and ground water; 4) meteorology, including microclimate; 5) zoology, including soil microfauna and paleozoology; and 6) general references. Approximately 900 Pinelands-related literature citations are presented in the compendium which, because it is computerized, can and will be continuously edited, updated, and expanded.

The *Compendium of Archaeological, Cultural, and Historical Literature of the New Jersey Pinelands* is the social sciences counterpart to the natural sciences compendium and is organized in the same manner. Approximately 800 literature citations are included in this reference. Topics discussed are: 1) travelers' accounts; 2) aboriginal settlement; 3) agricultural and industrial exploitation of the region's natural resources; 4) culture and society of Pine Barrens inhabitants; 5) cultural resource surveys; and 6) general references.

The Survey of Current Research in the New Jersey Pine Barrens presents the results of a survey conducted to determine the extent and nature of current research about the Pinelands. Sixty-nine individuals who are presently conducting research about the Pinelands (or who have an interest in Pinelands research) responded to a survey questionnaire which was distributed throughout the scientific community. One of the major objectives of this research review was to facilitate communication between scientists and land managers.

These three publications provide the information needed to determine directions for future research. More importantly, they provide a readily available reference guide to existing literature and ongoing investigations which are invaluable to the management of the Pinelands' resources.

Sand and Gravel Reclamation

In 1983 the Division of Natural Resource Planning of the Mid-Atlantic Regional Office of the National Park Service completed a draft study of current programs and issues related to sand and gravel mine reclamation in the Pinelands. The purpose of this study was to develop strategies and incentives to encourage the reclamation of mining areas for conservation oriented reuses such as forestry, wildlife management, and recreation. These strategies and incentives were developed in recognition of the economic interests of the miners and the need for miners to meet at least the minimum regulatory standards for reclaiming mined areas. The state's interest in maximizing protection of the Pinelands environment and in enhancing New Jersey's park, forest, and wildlife management area system was another important consideration.

The study was undertaken at the request of the Department of Environmental Protection. Other principal participants included the Commission and the New Jersey Conservation Foundation. Assistance in the study was provided by the New Jersey Mining Association, the New Jersey Soil Conservation Committee, the Soil Conservation Districts of Burlington, Camden, Cape-Atlantic, Cumberland, and Ocean Counties, and the South Jersey Resource Conservation and Development Council. An advisory committee of miners and landowners was formed and met frequently during the study to contribute their concerns and perceptions as well as technical information to the study team.

The study addressed several objectives concerning regulatory controls, reclamation techniques and costs, reclamation incentives for landowners and miners, and identification of mined lands which, if reclaimed, could be considered as possible sites for state acquisition for recreation purposes. The study objectives were:

1. to provide a review of the various legal and regulatory controls for sand and gravel reclamation in the Pinelands encompassing federal, state, and Pinelands Commission regulations as well as an overview and analysis of municipal and county standards
2. to provide a review of reclamation techniques and related costs applicable to mining industries in the Pinelands
3. to provide a method for determining the value of land after the operation is completed and to review techniques for acquisition and conservation through less-than-fee acquisition
4. to develop a strategy for identifying sites where reclamation and protection techniques should be used given the interests of the Department of Environmental Protection for recreation acquisition and facility development
5. to undertake a site specific case study of an area in which the state is acquiring land to test the methods developed
6. to involve miners and landowners in this process to encourage them to view reclamation as a way to participate in Pinelands conservation and to help provide incentives for this participation
7. to develop a set of model guidelines for use by the various levels of government to clarify for miners the requirements for proper reclamation

The results of the study are presented in a series of six reports which address a variety of related topics. One report provides detailed information on methods for restoring sand and gravel mines in the Pinelands. Reclamation strategies, an inventory of mines and potential mine sites, sources of assistance for reclamation, and options for future work are presented in separate technical reports. A conceptual plan for reclamation of lands in the Cedar Creek watershed was also prepared.

Several significant findings are presented by the National Park Service study team in these reports. They found that commercial sand and gravel mining is an economically important Pinelands industry and that the industry is unique because an economic return is possible both during and after mining operations. A secondary return can be realized through activities such as forestry and campground operations.

The study team also reports that 65 active operations in the Pinelands National Reserve were registered with the Division of Labor and Industry as of February 8, 1979. A total of 3,317 acres have been mined in the Preservation Area, Forest Areas, and Rural Development Areas. Based on the Department of Labor and Industry registrations, there is a potential for mining an additional 10,812 acres of land in the Pinelands, including nearly 4,000 acres located in the Preservation Area. These values represent a potential increase of 300 percent in the region and nearly 600 percent in the Preservation Area.

The study team found that in the past reclamation was done on a limited basis. Before the passage of the Soil Erosion and Sediment Control Amendments in 1980 and the implementation of the Plan, there was no consistent or coordinated management of restoration and reclamation of mining areas in the Pinelands. In addition to describing the roles of these two agencies, the functions of other agencies which regulate some aspect of the mining industry are also discussed. These include divisions within the Department of Environmental Protection and the Department of Labor and Industry. The team indicates that coordination among all agencies would facilitate the review of mining applications, the restoration of mined lands, and overall protection of the Pinelands environment.

Several programs which are available to help landowners and operators offset the costs of reclamation and reuse planning are identified. These include: (1) the New Jersey Conservation Committee and local Soil Conservation Districts which can offer direct technical assistance in reclamation; (2) agencies within the New Jersey Department of Environmental Protection with expertise in the administration of coastal review projects and coastal resource management (Division of Coastal Resources), fish and game management (Division of Fish, Game, and Wildlife), and forestry and recreation (Division of Parks and Forestry); (3) the Pinelands Commission which can assist in site planning and the distribution of natural and cultural resource information; (4) the National Sand and Gravel Association and the New Jersey Mining Association; (5) the South Jersey Resource Conservation and Development Council; (6) the Cooperative Extension Service and extension agents; and (7) the American Motorcyclist Association.

A number of conservation-oriented land uses are described by the team as having economic value with potential applicability for reclaimed mining areas. These include forestry, recreational facilities, limited residential development, and horticulture. Other uses such as wildlife management, agriculture, and aquaculture were also examined. Financial options including the sale of reclaimed lands to the state, cost sharing of reclamation expenses for specific uses, tax benefits of donating land or interests in land, and the sale of Pinelands Development Credits were cited as possible incentives in encouraging reclamation for reuses beyond the minimum standards. The study offers a strategy for the effective use of several techniques given such reuse options and various regulatory standards.

Several options for state agencies to pursue are suggested by the National Park Service study team. The study team indicated that a state mining and reclamation policy could be drafted. This policy would establish reclamation as a necessary responsibility of the operator. Regulatory activities of various governmental units could also be coordinated. A similar option is the establishment of an interagency task force to oversee mining policies in the Pinelands. This task force could be convened by the Commission.

The study team suggests that the Department of Labor and Industry keep adequate records on mining production and that the Department of Environmental Protection create a one stop permitting system for all governmental units regulating the mining industry.

Consistency throughout the Pinelands National Reserve regarding the registration and permitting of mining operations must be assured. This is the function of the Pinelands Commission and DEP's Division of Coastal Resources which is responsible for implementing the Comprehensive Management Plan in the coastal portion of the Reserve.

A step-by-step process for encouraging reclamation for conservation reuses could be implemented by the Department of Environmental Protection with assistance from the Pinelands Commission, the Soil Conservation Districts and their state committee, and the South Jersey Resource Conservation and Development Council. This would involve: (1) making administrative changes to encourage reclamation, (2) developing incentives to encourage conservation reuses, (3) determining possible conservation reuses for mining sites, (4) identifying sites for the targeting of specific incentives, (5) packaging an approach for financial and technical assistance, (6) developing specific administrative changes to develop the assistance programs, and (7) developing legislative recommendations for incentives and assistance programs where necessary.

The National Park Service study has generated substantial new data on the status of the Pinelands mining industry. It has presented several recommendations which, if implemented, can improve cooperation between the industry and state agencies and enhance protection of the Pinelands environment.

Water Monitoring in the Pinelands

The Pinelands Commission has attempted for the past three years to improve the coordination of water monitoring efforts within the Pinelands National Reserve. Through improved coordination, more reliable and comprehensive surface water quality data can be obtained.

In an effort to evaluate the extent and kinds of monitoring activities that have been occurring in the Pinelands National Reserve, the Pinelands Commission staff prepared a report in March 1982 entitled "A Comprehensive Inventory of Surface Monitoring Activities in the New Jersey Pinelands Area." This study indicates that of the seven county health departments in the Pinelands Area, only four have initiated county-wide surface water monitoring programs: Burlington, Atlantic, Ocean, and Cape May. The New Jersey Department of Environmental Protection (DEP), together with the United States Geological Survey (USGS), have initiated three major monitoring networks to establish baseline surface water quality data and identify water quality problems. These are the Primary Surface Water Monitoring Network, the National Stream Quality Accounting Network (NASQAN), and the Benchmark Monitoring Network. In addition, several specific monitoring studies have been done in the Pinelands by both of these agencies. There have also been numerous studies of Pinelands stream water quality. It appeared from the Commission's review that a general lack of uniformity exists in sampling and data gathering techniques. Also, once the data are collected by a study group, it is relatively difficult for this information to be used by others.

In an effort to resolve these coordination problems, a conference was sponsored by the Pinelands Commission on July 20, 1982 to which representatives of various county, state, and federal agencies and academic institutions were invited. It was the goal of this conference to:

1. review current surface water monitoring efforts
2. identify some technical and organizational problems associated with surface water monitoring activities
3. identify potential solutions to these problems
4. select specific geographical locations within the Pinelands Area that need to be studied most intensively
5. recommend which sampling methods should be used and chemical parameters measured
6. determine which government agency is most suitable to coordinate the monitoring, analysis, evaluation, and storage of water quality data from a surface water monitoring program

As a result of this conference the Pinelands Commission developed a working relationship with the USGS, and the two agencies together are attempting to implement a surface water monitoring effort in the Pinelands. The USGS and the Pinelands Commission selected three streams as potential study sites: the Norton Branch which flows into the Mullica River near the proposed Mullica Pines development in Mullica Township; the Babcock Creek near Mays Landing Gulfstream and the Hamilton National development site in Hamilton Township; and the South River near the Hans Hardt development site in Weymouth Township which eventually flows into the Great Egg Harbor River. These surface water bodies are relatively undisturbed at present, but will be in close proximity to extensive development if construction approvals are granted by the Pinelands Commission and other agencies. This proposed study could measure any changes in the water quality of these streams and rivers caused over time by development.

The USGS has also recommended that the following parameters be measured:

1. specific conductivity
2. pH
3. temperature
4. dissolved oxygen
5. biological oxygen demand
6. alkalinity
7. total kjedhal nitrogen
8. ammonia nitrogen
9. nitrate-nitrogen
10. nitrite-nitrogen
11. total phosphorus
12. fecal coliform

Once a tentative work plan is outlined by USGS and the Pinelands Commission, the Atlantic County Planning Board, Hamilton Township, Weymouth Township and the DEP will be consulted on issues such as funding for this coordinated monitoring effort. The DEP is currently attempting to coordinate water resource planning, enforcement, and monitoring throughout the entire state. Therefore, the Commission's coordination efforts in the Pinelands are related closely with the DEP's efforts. Recognizing this, DEP has asked the Pinelands Commission to participate with them in a newly formed planning committee, the Water Management Working Group. This group will help standardize parameters and sampling methods and institute improvements in reporting and record keeping systems so that collected information is more uniformly presented and disseminated.

In summary, federal, state and county agencies currently monitoring surface water in the Pinelands agree that a coordinated effort between them should be made to properly and efficiently evaluate surface water quality and rapidly disseminate this information. Efforts made by the Pinelands Commission to coordinate these activities are beginning to be rewarded. The interest in such a coordinated effort by the USGS, the DEP, and some of the Pinelands counties will enable the region's surface water to be evaluated more accurately and efficiently.

Forked River Mountains

The Forked River Mountains area is an expansive "wilderness" tract located in Lacey, Ocean, and Barnegat Townships in Ocean County. This tract contains parts of the Preservation Area and Protection Area and portions of the Cedar Creek and Forked River basins. The erosional processes which created the Cedar Creek and Forked River Basins are responsible for the formation of a series of hills, ranging in height from approximately 170-200 ft., which comprise the ridgeline between these watersheds. Among these hills is a well-known landmark, the 184 ft. Forked River Mountain. On a clear day, both Barnegat Bay and the hangers at Lakehurst Naval Air Engineering Center can be seen from this vantage point.

The public has demonstrated a good deal of interest in both the mountain and the surrounding area. In response to this interest, the Commission directed the staff to prepare a brief summary of the natural and cultural features found within a 5,000 acre Forked River

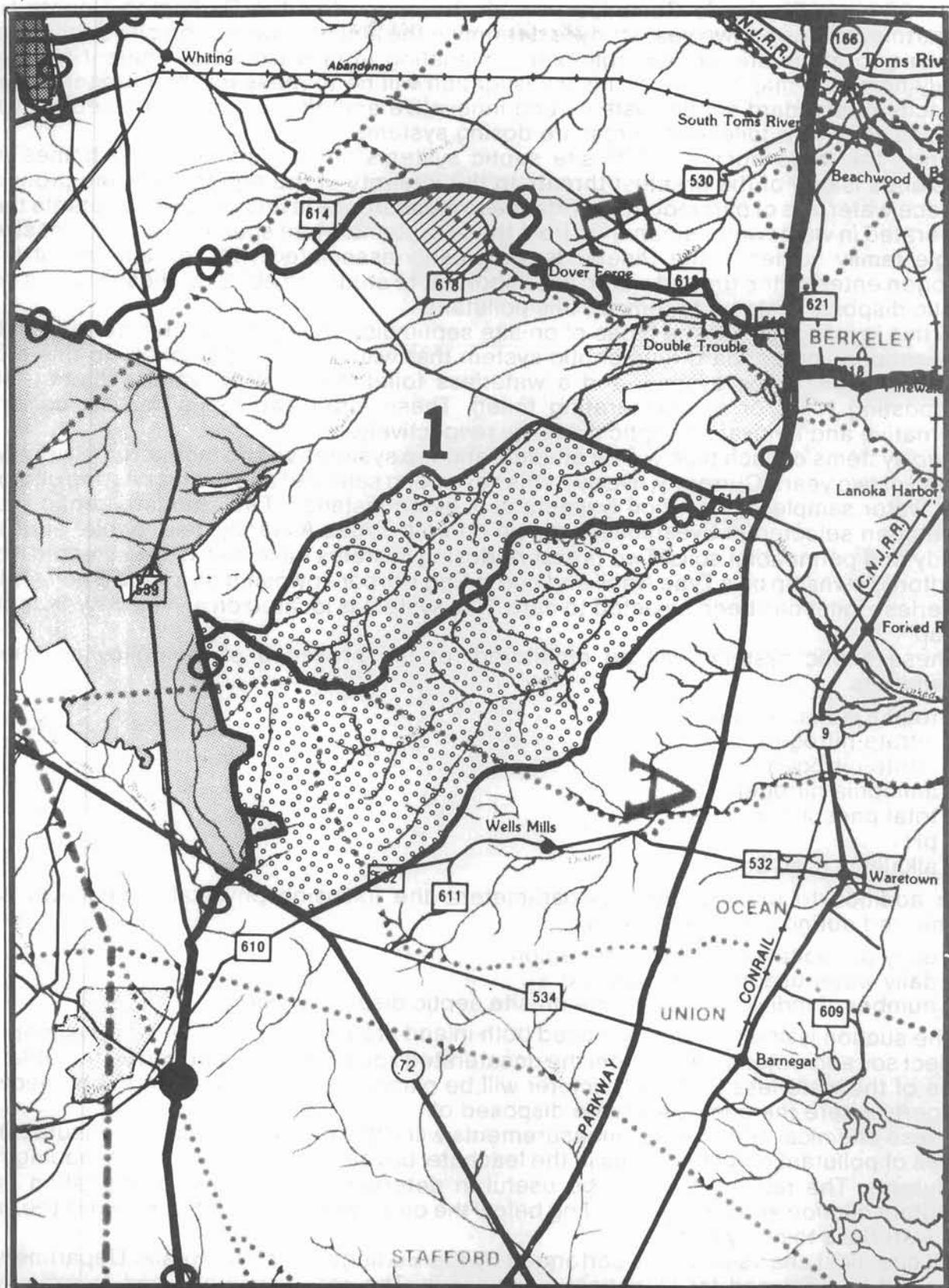
Mountains Study Area The staff found that the area's high elevation is its most prominent feature and that it is geologically diverse. The vegetation, composed of upland areas dominated by a pitch pine—blackjack oak forest and lowlands represented by cedar and hardwood swamps, pitch pine lowlands and bogs, is characteristic of that found in the central Pinelands. The habitats found in the study area are capable of supporting all the common wildlife species which occur in the central Pinelands as well as certain threatened or endangered animal species. Among the latter are the Pine Barrens tree frog and the northern pine snake, two species which are known to occur in the area. Both the North Branch of the Forked River and the Factory Branch of Cedar Creek are characterized as undisturbed Pinelands streams, contributing to the area's classification as a typical Pinelands ecosystem.

The area provides a number of recreational opportunities including hunting and trail riding. In the summary report, the Commission staff state its impression that many people are attracted to the area because of its mystique and "wilderness" character. This conclusion echoes Henry Charles Beck's statement that "no portion of New Jersey offers greater mystery than that area known, and yet not known at all, as the Forked River Mountains."

Property patterns in the area are characterized by large parcels owned by a few major landowners. The area is not currently subject to major development-related impacts, although resource extraction and limited residential development are possible in the future. A number of measures which can be taken within the context of the Plan to protect the area from development are identified. These include acquisition, limiting resource extraction to the less environmentally sensitive areas, and concentrating development along the eastern borders of the Forest Area section of the study area. The last two measures can be dealt with most effectively at the municipal level.

The Commission held two meetings to gather public comments on the value of the Forked River Mountains area and potential protection strategies. These meetings were attended by individuals with a wide range of interests. Among those who attended were state, county, and local officials, local residents, scientists, and historians. The topics addressed at the first meeting, held on November 4, 1982, included a review of the state's acquisition program, available acquisition funds, and the feasibility of acquiring land in the Forked River Mountains area. An ad hoc committee was organized to collect additional natural and cultural resource information, and suggestions were given on revising the study area boundaries. A second meeting was held on January 6, 1983, and participants shared the resource information which they had collected. As a result of these meetings, a revised study area map was prepared (Figure 7.1). The purpose of this map is to provide a focal point for further discussions on the natural and cultural resources of the Forked River Mountains area. The ad hoc committee is currently completing its data collection, and the Commission is awaiting its report. This information will be used in the Commission's efforts to protect this valuable and locally significant Pinelands resource.

FORKED RIVER MOUNTAINS



Study Area

Septic System Study

In 1983 the Pinelands Commission, with the support of the Burlington County Health Department, began a two year study to determine the ability of various on-site septic disposal systems to attenuate various pollutants emanating from wastewater effluent from single family homes. A major focus of this investigation will be to measure the nitrogen reduction capacity of standard septic systems and innovative and alternative design septic systems such as waterless toilets and pressure-dosing systems.

Since the large number of on-site septic systems serving single family homes in the Pinelands is one of the greatest threats to the integrity of the region's pristine ground and surface water, it is of paramount importance to measure the levels of major pollutants that are generated in wastewater emanating from these systems. More specifically, since lot sizes for single family homes in the Pinelands are closely associated with the amount of nitrate-nitrogen entering the ground water, it is important to study the ability of these various on-site septic disposal systems to remove this pollutant.

In this investigation, three types of on-site septic disposal systems have been selected: a conventional, or standard type septic system that will serve as the control in this study, a pressure-dosing type system, and a waterless toilet with a gray water system (either a composting toilet or an incinerating toilet). These latter two types can be considered alternative and innovative septic systems, respectively.

Two systems of each type will be studied, and the systems will be monitored biweekly for a period of two years. Currently, five systems have been selected and the monitoring equipment (soil water samplers or suction lysimeters) is being installed. Two standard septic systems have been selected in Evesham Township on both Types A (sandy, permeable) and B (less sandy and permeable) soils. Two pressure-dosing systems have also been selected --one in Medford Township on a Type A soil and one in Egg Harbor Township on a Type B soil. Only one waterless toilet has been selected to date. This system is located on a Type B hydrologic soil group.

These septic systems will be monitored for the presence of the following chemical parameters:

1. total Kjedhal nitrogen
2. nitrate-nitrogen
3. nitrite-nitrogen
4. ammonia-nitrogen
5. total phosphate
6. pH
7. alkalinity (CaCO_3)

In addition to these chemicals parameters, the following physical parameters will be monitored during this investigation:

1. daily precipitation data for the region
2. daily water usage per household
3. number of individuals using the on-site septic disposal system

The suction lysimeters will be placed both in and around the septic field. All lysimeters will collect soil and water samples from the unsaturated zone, above the ground water table. In the case of the waterless toilet, a lysimeter will be placed below the area on the homeowner' property where the compost will be disposed of.

These chemical and physical measurements will provide enough data to measure not only levels of pollutant concentrations in the leachate, but also the daily per capita loading rate of pollutants. The rainfall data will be useful in determining what effect precipitation has on pollutant dilution and nitrogen loading below the on-site compost disposal field in the case of the waterless toilet system.

All chemical analyses will be performed by the Burlington County Health Department. The data will be analyzed for statistical significance. The results will be used to examine the assumptions made by the Pinelands Commission when it designated minimum lot size requirements using the Brown Dilution Model.

Sewerage Systems

Because of the region's low population density, the Pinelands are generally poorly served by sewerage facilities. In fact, all of the major regional systems are located at the periphery of the area, and very few of the wastewater treatment plants serving the Pinelands are physically located within the region.

The location of sewerage systems and the capacity of wastewater treatment plants were prime determinants in the designation of Regional Growth Areas. The expansion of these regional sewerage systems is necessary to provide adequate growth opportunities in the Pinelands. The Comprehensive Management Plan recognized this and provided considerable room for service expansion in its designation of Regional Growth Areas. One of the underlying reasons for the Commission's policy of delineating a variety of management areas was to provide a clear focus for future infrastructure development, including the provision of sewerage facilities. This enabled maximum efficiency in public and private investments in infrastructure by ensuring that all of those involved in such investments would have a well defined and sufficiently large area for their activities.

To further this end the Commission's planning and development review functions strongly encourage sewerage expansion in Regional Growth Areas. Several Commissioners serve on boards or committees involved in sewerage planning such as the Delaware Valley Regional Planning Commission's Tri-County 208 Advisory Committee for Burlington, Camden, and Gloucester Counties. Commission staff members serve on this and other committees such as the Citizens Advisory Committee for the 201 Facilities Plan for the Atlantic Basin of Camden County, the Southern Burlington Septage Management Committee, and the Technical Advisory Committee for the Burlington County Sludge and Septage Management Plan. Through these activities the Commission is able to closely monitor current planning activities in these areas.

Another method by which the Commission is involved in sewerage planning is through the municipal conformance process. When each town with Regional Growth Areas within its boundaries was revising its master plan, it was required to insert specific statements concerning the provision of sewerage facilities in the municipality. During the development of density limitations and lot sizes for local land use ordinances, the Commission was careful to ensure that municipalities provided minimum lot sizes based on the assumption that sewerage was available, even if a given town or zoning district was not currently sewered. The Commission has also taken direct action in sewerage planning by adopting resolutions supporting several municipal applications for federal sewer funding.

Through its development review function the Commission is required to review private and public development activities, including sewerage projects. Among the projects that have been approved by the Commission are the construction of a 10 mile interceptor by the Atlantic County Utilities Authority to serve Egg Harbor, Galloway and Hamilton Townships; the expansion in capacity of the Hamilton Township Municipal Utilities Authority's Mays Landing treatment plant; the construction of an interceptor to the Fawn Lakes subdivision on Route 72 in Stafford Township, with the condition that the interceptor be sized to accept the waste flow from the Ocean Acres subdivision; the construction of a five mile force main in Galloway Township to serve an area with water quality problems in South Egg Harbor; the construction of local collection systems in Evesham and Pemberton Townships; the construction of an expanded interceptor in Monroe Township; and the construction of a local collection system in Buena Borough. There were also many other small collection system projects which were approved as part of a development application.

While the projects which have been approved represent a significant step forward in the provision of sewerage service, there are other important needs which need to be addressed. Among these are the need to assure that capacity and collection problems do not frustrate growth in the Atlantic County area; that adequate capacity and local interconnections exist in the western portion of the Pinelands to serve permitted development; and that the Ocean County Pinelands designated growth areas receive the infrastructure to realize their potential.

Towards this end the Commission's Economic Development Subcommittee had the Commission staff prepare an inventory of sewerage needs and opportunities in the Pinelands Area. With this as background the subcommittee intends to discuss with the development community and local officials the best way to achieve the ends that are outlined. The process will involve the identification of the most critical sewerage needs, as well as the identification of solutions to whatever administrative, procedural, or regulatory obstacles might arise. Through this process a consensus on a plan of action may emerge, and the interested parties can work jointly to provide the necessary services in the Pinelands Area.

Water and Land Resource Study

The Water and Land Resource Analysis System (WALRAS) is a computerized mathematical model that was developed at Cornell University to identify the level of pollution in ground water. This mathematical model also systematically identifies sources of contaminants in a given spatial area. Environmental factors such as precipitation, soils, vegetation, chemical transformations, and the many sources of pollution in the environment, such as development and agriculture, are considered by this model.

Rutgers University, with the technical support of the Pinelands Commission and Cornell University, applied the WALRAS model to a specific area in the Hammonton Creek watershed in the Pinelands. The Hammonton Creek watershed is comprised of 16 minor subdivisions, called cells. This application was made as a preliminary test of the model to the Pinelands Area. This test was useful in collecting various land use, soils and vegetation data. The results of this preliminary investigation indicate that the WALRAS model can be applied to the Pinelands Area given the available resource data.

Further testing, however, will be necessary to check the validity of the assumptions used and the conclusions reached. Once the pollutant levels and their sources can be accurately predicted by WALRAS, management decisions concerning the amelioration of the pollution problem can be made. WALRAS may therefore be useful to environmental managers such as the Pinelands Commission and the United States Geological Survey which is monitoring ground water in New Jersey. Although future plans are not entirely completed, it is expected that Rutgers University will continue to test and refine the model for ultimate use in the Pinelands and the state as a whole.

Pinelands Road Program

The Plan provides for the use of motorized recreational vehicles on public roads and other designated areas located on state lands provided that this use is compatible with the protection of surrounding natural and cultural resources. The Commission may designate roads as being inappropriate for use by motorized vehicles if, in consultation with the Department of Environmental Protection and other interested individuals, it is determined that there is a need to protect a critical Pinelands resource or to enhance the recreational use of an area.

At the request of the Commission, the Division of Parks and Forestry (New Jersey Department of Environmental Protection) prepared a detailed plan which identifies roads located within Pinelands state parks and forests which the division recommends for closure. Approximately 240 miles of roads and trails are recommended to be closed to motorized vehicle use.

Comments on this plan were elicited by the Commission from the Outdoorsmen's Action Co-op, a coalition of sportsmen concerned about the potential closing of Pinelands roads. Subsequent to the co-op's review, which included extensive field surveys by co-op members, the Commission arranged a series of meetings between division personnel and co-op representatives. At these meetings, division representatives presented their reasons for recommending the closure of each designated road, and co-op members described their assessment of these recommendations. As a result of these meetings, a second set of road maps, representing the co-op's suggested changes to the division's plan, was prepared. An

analysis of these changes indicated that the co-op recommended that almost 60 percent of the roads identified for closure by the division should remain open.

Comments on both division and co-op recommendations have been requested from the Sierra Club and the Pine Barrens Coalition. Representatives of these groups were briefed by Commission and division representatives on the status of the road closing program and were provided with copies of the road closing plans. These plans are currently being reviewed by them.

After the Sierra Club and the Pine Barrens Coalition complete their review, the Commission staff will convene a meeting among all groups involved in assessing the road closing issue. The objective of this step will be to obtain a consensus opinion on road closings. The Commission staff will also conduct its own independent assessment of roads which may be considered inappropriate for use by motorized vehicles. Based on this assessment and the recommendations made by the Division of Parks and Forestry, the Outdoorsmen's Action Co-op, the Pine Barrens Coalition, and the Sierra Club, the staff's final recommendations will be presented to the Commission for its consideration and possible action.

Warren Grove Management Plan

The Pine Plains are a unique and important Pinelands resource. The Plains include four separate areas -- the East Plains, West Plains, Spring Hill, and Little Plains--totaling approximately 12,000 acres in Burlington and Ocean Counties. The East Plains, located south of Warren Grove village, is one of the two larger areas of Plains vegetation, occupying about 6,000 acres in Bass River Township and Little Egg Harbor Township (Figure 7.2). The New Jersey Air National Guard has operated a target range in this area since 1961 and is currently expanding the area under its control to encompasss a total of approximately 8,500 acres. This area includes most of the East Plains.

Because of the need to protect the ecological values of the East Plains and to determine recreational uses which are compatible with military activities, the Air National Guard and the Pinelands Commission decided that a natural resource and recreational management plan should be developed. Assistance in this task was requested from the National Park Service's Division of Natural Resources, and in September 1982 the three agencies signed a memorandum of agreement to develop a management plan for the Warren Grove Target Range. This project is currently being conducted by the National Park Service for the Commission and the Air National Guard.

The purpose of the study is to: 1) evaluate the significance of the natural resources of the Warren Grove Target Range area; 2) determine the issues relating to the present use of the site; and 3) define options for the ongoing management of the range's resources. A preliminary draft management plan has been completed and reviewed by the principal participants. A resource inventory is presented in the preliminary draft plan along with a description of the ecological processes which affect and maintain these resources. Historical and current uses of the Warren Grove Target Range are also described. This information provided the basis for the development of findings, management objectives, and management recommendations which are briefly described here.

The National Park Service concludes that the East Plains is a unique and significant Pinelands landscape which has been shaped by complex ecological forces and that this landscape should be preserved. Frequent fire is among the most important of these forces and is necessary to maintain the characteristic Plains landscape. The study also found that the target range has been used for many acitivities, including military operations, recreational uses, and scientific study. Although past military use of the target range has caused substantial disturbance in the East Plains, since the designation of the Pinelands as a National Reserve the Air National Guard had made an effort to minimize disturbance in this area. Another cause of land disturbance is trail bike and other off-road vehicle use. The area in and adjacent to the target area was found to be a popular site for recreational vehicle use which seems to be responsible for considerable disturbance in the East Plains. The National Park Service reports that past and present scientific study in the area has been beneficial to the preservation of the East Plains. Scientific study has resulted in a greater understanding of the

area's ecology, which can be applied to its management, and has also increased public awareness of the ecological significance of the East Plains. The National Park Service also concluded that the inclusion of a portion of the East Plains (located outside the target range) in the Protection Area limits the effectiveness of managing the area. Several management objectives are also presented by the National Park Service, along with recommendations on how they may be accomplished. These objectives and recommendations are presented below.

1. Scientific use of the East Plains should be encouraged

Scientific study can be encouraged by establishing a scientific use area as defined in the preliminary draft report. Vehicular access to this area should be restricted, and military activity in the study area should be minimized. The Air National Guard should encourage scientific use of this area which should be managed by an academic institution or a private, non-profit organization selected by the Pinelands Commission and the Air National Guard. Scientific studies conducted here should be management oriented.

2. Vehicular use of the East Plains should be controlled

This can be accomplished by establishing a vehicular use area outside the East Plains portion of the range. Access should be limited and use should be restricted to organized events which obtain prior approval from the Air National Guard and the Pinelands Commission.

3. Traditional woodland activities such as hunting, birdwatching, and gathering should be allowed to continue

These uses should be encouraged and enhanced through both a modification of target range schedules which permit increased access to the area and the preparation of interpretive materials by the Air National Guard and the Pinelands Commission.

4. The needs and responsibilities of the Air National Guard should be reviewed

This requires a description of proposed land disturbance and development projects. The development of environmental guidelines, prepared cooperatively by the Pinelands Commission and the Air National Guard, would ensure environmental protection of the East Plains.

5. Disturbed areas of the East Plains should be revegetated

This involves the identification of areas needing revegetation and the implementation of vegetation management techniques.

6. The characteristic fire regime of the East Plains should be restored and periodic burning encouraged

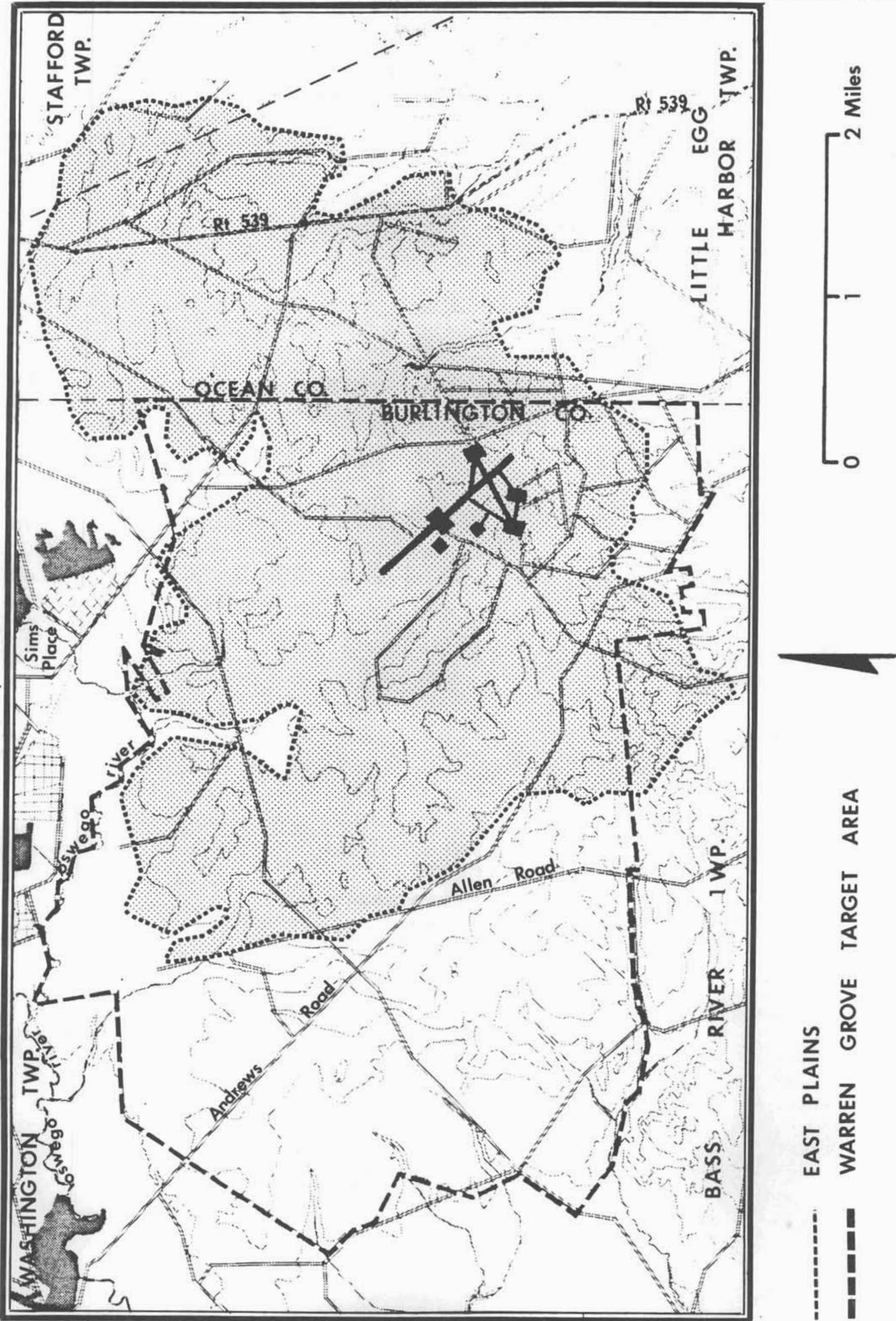
Perhaps the most significant ecological management objective, may be accomplished by establishing an experimental area and testing various treatments such as prescribed burns or designated control (DESCON) burns. Studies should also be conducted to test the effects of varying fire intensity and frequency.

7. The entire East Plains area should be managed as a unit

This area includes lands within the Warren Grove Target Range, private lands in the Preservation Area, and private lands in the Protection Area. The National Park Service also recommends that the Pinelands Commission convene a commission of scientists, planners, and Air National Guard representatives to assist in the planning and review of proposals for Plains research and use.

The preliminary draft of the study is currently being revised, and a final draft, intended for circulation and public review, will be produced. Each management objective and recommendation will be refined during this process. Specific tasks, agency or group assignments, and relevant completion schedules will be described in the final report, along with the necessary management techniques which must be implemented. The final product will serve as an example of a cooperative interagency/public project which has as its goal the continuation of a necessary military operation and the preservation and enhancement of an invaluable natural and cultural resource.

THE EAST PLAINS AND WARREN GROVE TARGET AREA



CHAPTER VIII

PUBLIC PROGRAMS

Most Public Programs efforts are devoted to providing the public with information about the Comprehensive Management Plan, the Commission, and the Pinelands in general. Other Public Programs activities are intended to provide the public with opportunities to participate in Commission decisions and become involved in Commission functions. The overall purpose of all these activities is stated in the Plan -- to create a greater public understanding of the Pinelands protection effort and to secure the cooperation of those affected by it.

Past and Present Activities - A Summary

Public Programs activities conducted prior to the adoption of the Plan differed considerably from post-Plan activities. Since the Commission's primary responsibility in 1979-1980 was to devise a land use plan with the involvement of the public, early Public Programs activities were largely devoted to arranging public meetings to solicit suggestions on how the Pinelands should be protected. Substantial changes were made in the final Plan because of the comments received at these meetings (e.g., grandfathering provisions and modifications to identified land management areas). Admittedly, the Commission's initial public involvement efforts were hampered by a lack of time and resources, the early crystallization of public opinion after the establishment of the "moratorium", and the efforts of well-financed groups formed to influence public opinion against the Pinelands Plan.

In addition to arranging these public meetings, the Public Programs staff answered public inquiries about the proposed Plan, collected and organized public comments about it, sought news coverage of Commission activities, and attempted to offset misinformation about the proposed Plan. The job of editing and organizing the Plan also fell to the Public Programs staff.

While the Comprehensive Management Plan was being prepared, the Public Programs staff began publishing the Pinelander newsletter (December 1979) and distributed a brochure asking the public for planning suggestions. The Public Programs staff faced the same basic problem confronting other staff members at that time -- a taxing workload caused by the necessity of completing and adopting the Plan within the 14 month time period allowed by the Pinelands Protection Act.

Once the Plan was adopted by the Commission and approved by the Governor and Secretary of the Interior, Public Programs activities shifted to helping property owners understand Plan regulations and assisting them with the development application process. This continues to be a primary responsibility of the Public Programs staff. Most of the routine activities and special projects undertaken by the Public Programs staff since the Plan's adoption have focused on helping Pinelands property owners or prospective home builders. These activities are overseen by the Commission's Public Involvement Subcommittee which reviews the yearly Public Programs work plan.

The Commission's public involvement program did not end with the adoption of the Plan, however. There are still opportunities for the public to influence Commission decisions and participate in Commission activities. Commission meetings and the meetings of its various subcommittees are open to the public, and time is set aside at these meetings for public comment. The Plan also contains several notification and hearing requirements to ensure that the public has an opportunity to participate in the decision making process. For example, public hearings are required prior to Commission action on a municipal or county application for Commission certification of its master plan and land use ordinances. The Public Programs Office is responsible for arranging and attending these public hearings on municipal and county applications for Commission certification. A considerable investment of staff time is required to arrange meeting locations, place newspaper advertisements, prepare notification letters, and attend hearings.

The Commission has also sponsored public hearings on issues of regional interest and

importance. In August and September of 1981 the Commission held three public hearings on landfills in the Pinelands. These hearings were scheduled in response to the concerns expressed by area residents about the health and environmental dangers posed by landfill contaminants. These hearings resulted in the establishment of a closer working relationship between local residents, the Commission, and the Department of Environmental Protection regarding landfill monitoring and enforcement.

The Commission again responded to residents' concerns when it held an August 1981 public hearing on a Bureau of Wildlife Management (Division of Fish, Game and Wildlife) plan to reintroduce black bears into the Pinelands. Concerns expressed at this meeting by area farmers, beekeepers, and others resulted in a Commission recommendation that the bureau reconsider the proposal. The black bear plan was subsequently withdrawn by the bureau because of local opposition.

Meetings with Special Interest Groups

Other ongoing public involvement activities are the scheduling of regular meetings with groups that have a strong interest in the Pinelands protection effort. The Commission staff meets each month with members of the Pine Barrens Coalition. These meetings, scheduled at the request of the coalition, keep group members apprised of Commission activities, policies, and decisions. Discussions in the past have centered on the conformance process in individual towns and the Commission's development review procedures. The staff also meets once every two months with the builders committee on Pinelands issues -- the Coalition for the Sensible Preservation of the Pinelands. Discussions with this group recently focused on the need to provide infrastructure development in Regional Growth Areas. At these meetings the Commission staff discusses builders' concerns about conformance, the development review process, and Plan regulations.

This past June the Commission formed a citizens committee to review and offer recommendations on the Commission's cultural resource management plan. The 15 member Cultural Resource Management Plan Advisory Committee includes private citizens, municipal, county, and federal officials, and historic preservation professionals. The committee has reviewed the cultural resource management draft plan and recommended additions and changes to the plan's text and treatment guidelines.

Early this year the Commission formed a new subcommittee to address issues of concern to Pinelands Area farmers. The Agricultural Subcommittee met several times with the Agricultural Task Force, a committee of Pinelands Area farmers, agricultural agents, and Department of Agriculture employees concerned about the effect of the Pinelands Plan on area farmers.

The Agricultural Subcommittee and Agricultural Task Force recently agreed to jointly support several pieces of legislation and programs that would aid area farmers. One topic of discussion between the subcommittee and the task force is the eligibility of Pinelands Area farmers for the state agricultural retention program. The task force also agreed to assist in the Commission's ongoing analysis of the Plan's economic effects in order to gain more detailed information about the Plan's impact on area farmers.

The Commission staff has also met with groups on more specific issues. Because of the interest and concerns expressed by a number of Pinelands residents about the future of the Forked River Mountain area, the Commission formed a citizens study group to work with the staff to gather additional information on the natural and cultural importance of this area and recommend methods for its protection. This committee has met twice, and the Commission is presently awaiting the study committee's recommendations.

The Commission has also worked with groups that both support and oppose the closing of roads on public land to motor vehicles. The Commission staff met with members of the Outdoorsmen's Action Coop, the Sierra Club, and the Pine Barrens Coalition to gather comments on a Division of Parks and Forestry plan to close approximately 240 miles of roads and trails to motor vehicle use. The Sierra Club and Pine Barrens Coalition are presently reviewing both the Parks and Forestry road closing plan and the alternative plan recommended by the Outdoorsmen's Action Coop. After these two groups complete their review, the Commission staff will schedule another meeting with representatives from these three groups and the Division of Parks and Forestry to attempt to reach a consensus opinion on the extent of road closings that should occur.

Public Inquiries

Still, most Public Programs staff time is necessarily devoted to answering public inquiries rather than working on public involvement activities. The bulk of these inquiries are requests for information about property or assistance with development applications. The staff also receives a large number of requests for information on Pinelands recreation opportunities and general information about the Pinelands, usually from students.

Since most public inquiries concern property, much effort has been invested in devising form letters which accurately and simply respond to the most frequently asked question -- what can I do with my property? The property form letters now used to answer inquiries apprise property owners, when appropriate, of Pinelands Development Credits, waivers, and the Plan's "grandfather" provision. Property owners are also informed about the different application procedures in certified and non-certified municipalities. Although the Public Programs Office receives about 80 telephone or written requests for information each week, property inquirers generally receive a telephone call answering their question within three days of their initial contact and a follow-up property letter and/or necessary application form. The response period is longer for property owners who ask specific questions that cannot be answered in a form letter.

Another significant Public Programs responsibility is to meet with members of the public who drop by the Commission office each week seeking information about their property. The time spent with these property owners varies from five minutes to an hour or longer. The staff also receives approximately four referral letters or calls each week from the Governor's Office, legislators, or other agencies. These referrals are usually requests to assist a constituent who owns property in the Pinelands and needs help in understanding Comprehensive Management Plan regulations and application procedures.

Special Projects

Despite the extensive demand for information about Plan regulations, a number of non-routine activities designed to improve public understanding of the Plan have been completed during the past three years. Several writing projects have been undertaken which have helped property owners understand Plan regulations and their rationale. Ten thousand copies of the Commission's original brochure, "The New Jersey Pinelands: Our First National Reserve", were distributed to interested individuals and organizations. Nearly 30,000 copies of the Commission's newer colored brochure, "The Pinelands of New Jersey", have been distributed to property owners, Realtors, school teachers, and other targeted audiences. This brochure is mailed with property letters to help people understand the reasons for Pinelands land use regulations.

Other projects designed to aid property owners and Realtors have been the distribution of a "Realtors Packet" to area Realtors, planning boards, and building inspectors. This packet contains CMP development regulations, application forms, and a written explanation of the development review process. The environmental standards of Article 6 have been summarized in a simplified form for the benefit of individuals who desire more generalized information.

Another writing project completed during the past three years which has helped property owners is the landowner's guide to Pinelands Development Credits. Written materials compiled for those with a more general interest in the Pinelands include a 20 page summary of the CMP, a Pinelands fact sheet, a guide to public recreation resources in the Pinelands, and various other printed materials. The Public Programs Office also distributes recreational materials on the Pinelands produced by the Department of Environmental Protection. The Pinelander is published once every two months, and its format has been substantially improved through professional typesetting and the use of photos. The mailing list for the Pinelander has been expanded from 2,400 to 4,700. Another writing project which should prove valuable to property owners is the soon-to-be completed brochure on waterless toilets and alternative design septic systems. Other written materials prepared by the Public Programs Office are the Commission's annual report and a January 1982 progress report on municipal conformance.

For the past four years the Commission staff has been presenting slide shows and talks on the Pinelands to area civic groups, school classes, and social clubs. About three presentations are made each month by the Public Programs Office and other staff members. The present

Public Programs slide show contains a written script which other staff members can use. The Commission recently hired an educator to produce a Pinelands slide show with music and narration for distribution to county library systems and civic groups throughout New Jersey. Funds for this project, the creation of Pinelands displays, and other educational activities are being provided by a recent \$15,000 grant from the Victoria Foundation and a \$20,000 grant from the Dodge Foundation. The Commission is seeking additional funding for a more comprehensive Pinelands educational program. Staff members are also participating in a committee organized by the National Park Service that is recommending ways to better interpret Pinelands ecology and culture to the public.

Media Relations

Extensive efforts have been made during the past four years to keep news gathering organizations apprised of Commission activities. Commission news releases are mailed each month to newspapers, wire services, and radio and television stations. Several area newspapers give frequent coverage to Commission activities, and there is frequent telephone contact between reporters from these newspapers and the Public Programs Office. The Public Programs staff has also written and/or distributed feature articles on the Pinelands bog iron industry, recreation opportunities, land acquisition, and the discovery of monbactum -- the new antibiotic developed by Squibb from Pinelands soils. These stories have been reprinted by newspapers throughout the state. The Public Programs staff helps reporters obtain information about Commission matters and also encourages reporters to write feature stories about the Pinelands. The staff helps Burlington County publicize its Conservation Easement and Pinelands Development Credit Exchange Board and has prepared several news releases about the program at the county's request. The Executive Director has also met with the editorial boards of six daily and weekly area newspapers.

There is frequent telephone contact between the Public Programs Office and several area radio stations that give regular coverage to Commission activities. During the past two years Channel 13 was given help to prepare a 15 minute feature on Pinelands canoeing. Coverage of the Commission's public hearing on the proposed reintroduction of black bears into the Pinelands, coverage of the UN's biosphere designation, and a KYW-TV feature on the Pinelands educational program in Cherry Hill schools represent some of the more notable television and radio projects. Ocean County's cable television station reports regularly on Commission activities and has interviewed Commission staff members for news shows and interview programs. Television coverage of Commission activities is much less frequent than four years ago but generally focuses on less controversial topics.

Legislative Activities

The Public Programs staff is also responsible for keeping the Commission and staff informed of Pinelands-related legislation. This is done through the monitoring of the New Jersey Legislative News newsletter. The staff also prepares and distributes a Legislators' Update newsletter to the Governor's office, department heads, state legislators, and the New Jersey Congressional delegation. The staff assists the Executive Director and Assistant Director for Planning and Management in briefing legislators and other state officials on the Pinelands and advising them of Commission positions on Pinelands-related legislation. The Public Programs staff also occasionally prepares information packets for legislators and their aides.

Future Activities

It is anticipated that future Public Programs activities will remain largely devoted to answering public inquiries about Plan regulations, the Commission, and the Pinelands in general. However, the need for expanded programs designed to better inform people about the Pinelands is recognized. Greater efforts to solicit the necessary financial support to broaden the Commission's current initiatives are a must. As mentioned earlier, the foundation assistance received to date will, at a minimum, enable the Commission to broaden its education initiatives over the coming year.

CHAPTER IX

OTHER MAJOR ACTIVITIES

Pinelands Development Credit Program

The Pinelands Comprehensive Management Plan established the Pinelands Development Credit (PDC) program to: 1) encourage a shift of development away from active farmland and environmentally sensitive regions and; 2) provide a way for landowners in these areas to benefit from increased land values in Regional Growth Areas. The program allocates transferable development rights (PDC's) to property owners in the Preservation Area District, Special Agricultural Production Areas, and Agricultural Production Areas as a supplemental use of property. The credits can be purchased by landowners in Regional Growth Areas to increase the densities of residential developments there.

Allocation and Use

The Plan's formula for allocating credits to landowners recognizes the elevated value of active farmland compared to other undeveloped areas. The formula also provides fewer credits to owners of non-agricultural wetlands where most types of development are prohibited. In the Preservation Area District, owners of uplands are entitled to one credit for each 39 acres, or the appropriate fraction thereof. In Agricultural Production and Special Agricultural Production Areas, all uplands and areas of active agriculture, including berry agricultural bogs and fields, are allocated two credits per 39 acres. In all areas which are assigned credits, wetlands are allocated 0.2 credits per 39 acres, a ratio based on the comparative values of uplands and wetlands. In addition, the program provides that owners of lots at least 0.1 acres in size as of February 7, 1979 will be allocated no less than 0.25 Pinelands Development Credits if the property is vacant and not in common ownership with contiguous land. One Pinelands Development Credit allows a developer to build four additional dwelling units in a Regional Growth Area.

The Comprehensive Management Plan contained an estimate of the number of PDCs that might be allocated based on an analysis of lands in the Preservation and Agricultural Production Areas. Since the adoption of the Plan, changing conditions resulted in an adjustment of these figures: land acquisition in the Preservation Area has progressed, thereby reducing the amount of land eligible for credits; municipalities have adjusted management area boundaries during the conformance process, thereby adding and deleting agricultural areas; and municipalities (and the Commission when requested by property owners) have designated Special Agricultural Production Areas. The net result of these adjustments is that approximately 6,500 Pinelands Development Credits are in existence.

Just as the areas allocated credits have been affected by changing conditions, so too have the areas capable of receiving the transferred credits. In receiving areas the interrelationship of contributory factors is more complex, and there have been both increases and decreases in these areas. During the conformance process many municipalities sought and received larger growth areas, thereby increasing the land area capable of accepting credits. In February 1981 the Commission received an Attorney General's opinion which indicated that the Commission did not have direct authority to implement and enforce the Plan in that portion of the Pinelands National Reserve outside of the Pinelands Area. Therefore, most of the growth areas there would not be utilizing credits. Also, during conformance some municipalities demonstrated that certain developed areas in the town were incapable of receiving credits. This resulted in smaller credit receiving areas within the municipality. However, this did not always result in reduced capacity to accept credits, as most towns and Regional Growth Areas were still required to accept a 50 percent density increase over the base number of units. In addition, local zoning ordinances often included commercial and industrial districts in growth areas, resulting in a reduction of residentially zoned lands.

There are currently 15 towns with certified plans and ordinances which provide for the use of PDCs in their Regional Growth Areas. Two additional towns with growth areas, Medford Lakes and Berlin Township, were not required to accept Pinelands Development Credits because of the developed character of their growth areas. It is estimated that permitted zoning densities in these 15 towns can accommodate 7,264 credits, or 29,056 bonus residential dwelling units. The distribution of credit use by county in certified towns is given in Table 9.1. Seven additional towns with designated Regional Growth Areas have not yet been certified, and it is estimated that a maximum of 5,660 credits, or 22,640 bonus residential units, can be accommodated there.

**Table 9.1
PDC Use Potential in Certified Municipalities**

County	Number of Certified Towns	Credit Use Capacity	Bonus Unit Capacity
Atlantic	0	0	0
Burlington	4	1,650	6,600
Camden	4	1,959	7,836
Cape May	0	0	0
Cumberland	0	0	0
Gloucester	1	988	3,952
Ocean	6	2,667	10,668

If the projections for the uncertified towns are realized as those master plans and land use ordinances are revised, approximately twice as many credits can be used as are allocated. This is slightly less than the ratio envisioned when the Pinelands Plan was adopted, but it should be sufficient to maintain a healthy market for PDCs. A substantial reduction in the opportunities for their use could seriously harm the PDC program. If the Commission was to approve any such reduction, it would have to consider the extent to which approved "municipal reserves" might cover the difference if and when they are rezoned at growth area densities.

The ratio of available credits to the capacity of Regional Growth Areas to utilize them is not the only factor which will determine the success of the PDC program. The willingness of people to engage in PDC transfers will also help ensure its successful operation in the public sector and private market. Any new or innovative idea requires time before it is accepted by the public. This has been the case with the Pinelands Development Credit program.

Program Implementation

The principal recommendation contained in the Comprehensive Management Plan regarding the PDC program called for the establishment of a credit "bank" which would provide loan guarantees and serve on a limited basis as a buyer of credits in hardship situations. While legislation to create a state credit bank was being drafted, the Burlington County Board of Chosen Freeholders took the initiative of establishing its own credit purchase program to operate within the county. The Burlington County program was designed to stimulate the private market exchange of PDCs and provide financial relief to a limited number of county landowners by purchasing PDCs at the fixed purchase price of \$10,000 per credit. The county would then sell the credits at auction to the highest bidder.

On October 28, 1981 the Burlington County Board of Chosen Freeholders voted to establish the Burlington County Conservation Easement and Pinelands Development Credit Exchange Board. The exchange was given the authority to buy credits for later resale at auction. The initial funding of \$1.5 million for the program was provided by the county's 1977 bond ordinance for the acquisition of conservation easements in the Pinelands. Landowners interested in selling credits file an application with the exchange and, if it is conditionally

approved, a title examination is conducted and the applicant notified. A final review by the county solicitor and Commission precedes any financial settlement.

By February 1, 1982 the exchange was ready to accept applications for credit sales. In July 1982 the exchange adopted a resolution proposing to acquire a development credit from a landowners in Bass River Township. Immediately following this action, in August 1982, Marvin Matlack and John and June Story, represented by the Mid-Atlantic and Pacific Legal Foundations respectively, challenged the ability of the freeholders and exchange to participate in the purchase, sale, and creation of a market for Pinelands Development Credits. The plaintiffs asserted that: (1) the use of monies to acquire PDCs was not authorized by the bond ordinance; (2) the board of freeholders and the exchange were not empowered to buy, sell, or otherwise create a market for PDCs; (3) local government units were preempted from acting with respect to PDCs by the state; (4) the creation of a PDC document and registration system enabling the transfer of PDCs violated applicable federal and state securities laws; (5) the use of bond ordinance monies to buy PDCs on land outside the county, as authorized by the exchange's resolution, was illegal; and, (6) the setting of a purchase price of \$10,000 for a PDC was an arbitrary and capricious designation of value and that the amount denied due process and just compensation to a potential seller of PDCs. Until a decision could be reached, Superior Court Judge Myron H. Gottlieb placed a temporary restraint on additional credit purchases by the county. On December 6, 1982 Judge Gottlieb issued his initial decision in the case. The freeholders and exchange, as defendants, were granted a summary judgment declaring that: (1) PDCs may be purchased under the bond ordinance; (2) the board of freeholders may acquire and sell PDCs; and (3) the board of freeholders is not preempted by the state from buying, selling, or creating a market for PDCs. The court found for the plaintiffs that the freeholders' authorization to use proceeds from the bond ordinance for purchases of credits from land outside the county was illegal. As for the \$10,000 purchase price, the plaintiffs' motion for summary judgment as to its arbitrariness was denied. However, the court held for later judgment the question of the reasonableness of the price.

Folowing this action, hearings were held by Judge Gottlieb to obtain evidence about the derivation of the PDC purchase price. On June 14, 1983 Judge Gottlieb issued an opinion which dismissed that portion of the complaint relating to the \$10,000 purchase price, thereby confirming the price as reasonable. As of this writing, the county has authorized the purchase of 41 Pinelands Development Credits. These purchases will result in the permanent protection of 1,295 acres of land in Burlington County.

As mentioned previously, the Burlington County credit exchange was initiated by the county based upon a recommendation in the Pinelands Plan that a state level "bank" be established. There are presently several bills in the state legislature that would create and fund a state credit bank. Assembly bill 1259, entitled the "Pinelands Development Credit Bank Act," was introduced on May 13, 1982 and was unanimously approved by the Assembly on September 6, 1983 and is currently awaiting Senate action. This bill would establish a nine member board of directors to govern the bank which would be empowered to purchase and sell credits, issue Pinelands Development Credit ownership certificates, extend loan guarantees with credits as collateral, operate a credit registry, and guarantee a minimum credit value of \$10,000. Senate bill 1470, introduced on June 3, 1982, provided an appropriation of \$4.56 million from a Green Acres bond act for the purpose of acquiring lands for recreation and conservation purposes. This bill was later amended in the Assembly to allocate \$1.5 million of the appropriation to the Pinelands Development Credit Bank. The amended version was unanimously adopted by the Assembly on September 6, 1983 and the Senate on September 15, 1983 and is awaiting the Governor's signature.

A pair of companion bills, Senate bill 3211 and Assembly bill 3721, known as the "Pinelands Protection Bond Act of 1983," would have authorized a bond issue for the purchase of PDCs. Senate bill 3211, introduced by Senator William Gormley, was released by the Senate Committee on Energy and Environment with amendments that would reduce the bonding from \$100 million to \$30 million and devote the funds exclusively to the Pinelands Development Credit Bank established by A-1259. (The original version of S-3211 provided that the funds would be used by the Department of Environmental Protection to buy both PDCs and land. Assembly bill 3721 still has these provisions.) Unfortunately, this bond issue did not appear on the November 8, 1983 ballot. The final piece of legislation revelant to the PDC program is

Assembly bill 3206 which defines PDCs as compensation and consideration for use restrictions on land. This bill, sponsored by Assemblyman Anthony Marsella, was released by the Assembly's Committee on Agriculture and Environment on April 11, 1983 and is awaiting further action.

While these legislative initiatives were taking place, other efforts were being made to promote the PDC program. The Commission held meetings with PDC holders, developers, and Realtors to explain the implications of the PDC program. The Commission's development review staff has also been handling applications for projects that require the use of PDCs to achieve desired densities. The Commission issues a document, called a Certificate of Filing, which indicates whether a particular development is consistent or inconsistent with the CMP. When a development proposes a density which is greater than that permitted under the Pinelands Plan, then the excess units can be obtained through the purchase of Pineland Development Credits. The Commission has issued Certificates of Filing calling for the use of 715 Pinelands Development Credits which would allow 2,860 additional dwelling units to be built in Regional Growth Areas.

The Commission's development review staff has also been issuing Letters of Interpretation to credit holders. These Letters of Interpretation establish for landowners the number of credits they are entitled to based upon a site inspection of the property. The site inspection allows the Commission staff to identify the extent of active farmland, uplands, or wetlands on a property so the number of PDCs can be determined. As of this writing, 33 Letters of Interpretation have been issued for 247.6 PDCs which would allow for 990 bonus dwelling units.

Private interest in the PDC program is ultimately manifested through the sale of credits on the open market. There have been private purchases of 5.5 Pinelands Development Credits at the price of \$20,000 per credit — twice the amount payed by the Burlington County credit exchange. Other evidence of increasing private interest in the PDC program is being provided in several municipalities, particularly those with land use ordinances fully certified by the Commission, where developers have expressed a strong interest in using PDCs. These developers are currently negotiating with PDC owners and municipal officials to work out the details of the transfers. The first municipal approval of a credit transfer to increase the density of a residential development recently occurred in Pemberton Township.

As the private transfer and use of PDCs become more prevalent, there are several issues relating to the operation of the program which require attention. Because of the relative novelty and complexity of the program, there is a great deal of uncertainty as to how the program should operate. While Pinelands Plan regulations address the key issues, such as the method of deed restriction, there are a number of other issues which should be addressed to assure the long term viability of the program.

A procedural issue which requires further attention is the issuance and registration of credits to eligible property owners. The Pinelands Development Credit Bank Act (A-1259) addresses this by having the bank's board of directors issue Pinelands Development Credit certificates to the landowner after the recording of deed restrictions on the property's use. The board would then maintain a registry of Pinelands Development Credits which would include: (1) the name and address of every landowner to whom a development credit certificate is issued; (2) the name and address of every person to whom a credit is sold or conveyed, and the date of and consideration for the sale; (3) the name and address of any person who has pledged a credit as security on a loan, as well as the lender and term of the loan; and, (4) the name and address of any person who has redeemed a credit, the location of the land to which the credit was transferred, and the date of redemption. In addition, the bill provides that no credit shall be acquired or redeemed without recording that fact with the bank within 10 days of the transaction. Such a registration program would promote the PDC program by providing a centralized tracking system for all PDC exchanges.

As currently constructed in the Pinelands Plan, no credit can be used to secure a density bonus unless the owner of land from which the credit was obtained has deed restricted the property in perpetuity to those non-residential uses authorized in the Plan. The recorded deed restriction is specifically and expressly enforceable by the Commission, and the uses authorized at the time of transfer shall be enumerated in the deed of conveyance. However, the program does not address the situation where individuals only wish to sell a partial amount

of the credits allocated to their property. One apparent way to address this issue would allow the individual selling the credits to conduct a survey to specifically identify the area which is deed restricted and from which the credits are transferred and then subdivide along the appropriate survey line.

Another operational issue concerns the redemption of PDCs when they are used to increase densities in receiving areas. Since proposed developments will have to receive subdivision and/or site plan approval, the redemption of credits should be keyed to this procedure. The applicant seeking to use PDCs would file with the approval agency a document indicating the ownership or intent to purchase credits, as well as the preliminary subdivision plat or site plan. It may be desirable at this point to establish a minimum level for a density increase so that the capacity of receiving areas is not substantially diminished through nominal density increases and PDC redemptions. Once a preliminary plat or site plan has been approved and the required bonus density is established, the applicant would then proceed to obtain final subdivision or site plan approval. At this stage the applicant would provide copies of the deed restrictions for the sending properties to the municipality where the development is to occur, the municipality from which the credits were transferred, and the Commission. Following the presentation of the deed restriction and the approval of the final plat or plan, the transfer of credits would be complete.

It is apparent that other operational issues may make this process more complex. For example, if only a portion of a property is subdivided, then the applicant would have to show he is meeting the bonus density rules on that portion currently being developed. Similarly, with a large planned development undertaken in stages or sections, each stage would be required to accommodate its share of the total bonus density. Since there are large front end costs associated with this sort of development, it may be appropriate to prorate the bonus densities so that a lesser share is required in the first stages, provided that later stages make up the difference. This would allow a developer to utilize profits from the early stages to finance credit acquisition in the later stages. Since this sort of project is customarily given final approval in stages, the documents attesting to the ownership of credits could also be staged.

One final operational issue relates to the taxation of PDCs when they are attached to land, severed from land, and utilized in a development. It would appear that land under farmland assessment, which is assessed on the basis of use, would continue at the farmland rate even if credits were attached since farmland assessment disregards development potential. On other lands with credits attached, however, it would seem that the credits provide value and therefore would be considered in the assessment. As to the case of credits that are severed from the land but not yet exercised, an unpublished opinion of the Maryland Attorney General indicates that these "detached" credits are intangible personal property and therefore not taxable. Of course, the legislature could make these a subclass of personal property. Finally, when credits are utilized to build dwelling units, the value of the credit will be in the real property.

A host of factors has influenced the implementation of the Pinelands Development Credit program. The slow economy has severely hampered residential development, and the novelty of the program has caused misunderstandings about its implications. There has also been some hesitancy on the part of the development community to take advantage of the program, partly because of the uncertainty about zoning district densities while municipalities amended their zoning ordinances during the conformance process. With the majority of municipalities in the Pinelands Area now fully certified, the prospects for overcoming some of these difficulties appear brighter.

Legislative Initiatives

The passage of the Pinelands Protection Act did not end legislative interest in the Pinelands. In fact, in the three years since the Comprehensive Management Plan went into effect, no less than two dozen bills and resolutions have been introduced in the legislature which bear directly upon the Pinelands Protection Act and the implementation of the Plan.

Pinelands Financial Programs

A number of these bills are actually outgrowths of recommendations contained in the Plan. Assembly bill 1259 seeks to establish a state Pinelands Development Credit Bank. This bill, and several others which would help finance the bank's operation, reflect major Plan recommendations and are discussed in detail earlier in this chapter.

Assembly bill 1977 proposes in-lieu-of-tax payments on lands acquired by the state at 100 percent of the pre-acquisition tax revenues, and Senate bill 1791 (combined with Assembly bill 2039) would help offset reductions in community tax bases and further solidify the financial programs recommended by the Commission. These and a number of other bills which seek to address financial aspects of the Plan are discussed at length in Chapter V.

Open Lands Management

The New Jersey Conservation Foundation has explored the possibility of adapting a successful British land management technique to New Jersey. The "Countryside Commissions" in Great Britain have established a cooperative effort with private landowners to help resolve conflicts which arise when the public deliberately or unknowingly uses private open space for recreational pursuits. In return for permitting public access on private property, the landowner receives financial help, is relieved of liability for personal injuries, and receives direct help from a warden or "troubleshooter" in planning for and controlling public access. The Pinelands Commission felt that such a concept would have merit in the Pinelands, and in early 1982 Assembly bill 655 was introduced to establish a pilot "Open Lands Management Program" in the Pinelands.

As a result of legislative committee review, the bill has since been amended to apply on a state-wide basis. One of the bill's major provisions authorizes the Department of Environmental Protection to help private landowners plan for recreational uses of their property. The bill also provides financial assistance for certain capital projects and relieves landowners from liability due to accidents. In return, the landowner enters into an access agreement which guarantees public access to the property for specified periods of time. The bill has been released by the Assembly Revenue, Finance and Appropriations Committee and is awaiting action by the full Assembly.

Water Resources

In the fall of 1981 the Water Supply Management Act was amended to prohibit any person from exporting surface or ground water from the Pinelands more than 10 miles beyond the boundary of the Pinelands National Reserve (N.J.S.A. 58:1A-7.1). This legislative action complemented similar provisions in the Pinelands Plan which are designed to protect the region's ecology and economic base which are, in large part, dependent upon the maintenance of the existing flow and volume of water from its streams and aquifers.

Protection of Agricultural Lands

In 1981 the citizens of New Jersey approved the \$50 million Farmland Preservation Bond Act. In order to implement this state-wide bond program, the Agriculture Retention and Development Act was passed by the legislature and signed into law by the Governor in January 1983.

This act was the culmination of several years of work by the Department of Agriculture and creates an intricate program to help protect New Jersey's productive farmland. In simple terms, the program represents a cooperative state, county, and municipal effort to identify agricultural areas where, through voluntary efforts, agricultural lands may be temporarily reserved for farm uses. Agricultural easements would be selectively acquired to permanently protect farmland, and financial assistance would be provided for soil and water conservation projects in identified agricultural areas.

The Pinelands Commission supported the state-wide program as a means to complement the agricultural protection programs of the Pinelands Comprehensive Management Plan. However, early versions of the bill left some doubt as to whether farmers in the Pinelands could benefit from the state-wide program. To clear up potential uncertainties, the bill was amended to specifically provide that programs offered through this act would be available in the Pinelands.

Waste Treatment

In January 1983 Assembly bill 725, which authorized the use of alternative waste treatment systems throughout the state, took effect (N.J.S.A. 58:11-25a et seq.). This bill amended the Realty Improvement Sewerage and Facilities Act of 1954 and specifically directed the Departments of Environmental Protection and Community Affairs to establish standards regarding the design and installation of alternative septic systems, which include waterless toilets.

Within the Pinelands, waterless toilets are sometimes required when development is proposed on relatively small lots. The existence of uniform standards for these types of waste disposal systems will help allay some misgivings expressed by the public about these systems and better ensure that the systems are properly designed and installed.

Amendments to the Pinelands Protection Act

There have also been several attempts to substantially change the Comprehensive Management Plan through legislative initiative. Probably the most noteworthy of these initiatives was Senate bill 3335, sponsored by then-Senator Steven Perskie of Atlantic County.

Senator Perskie's bill, technically known as an act to amend and supplement the Pinelands Protection Act, was introduced in June 1981; however, it had been the subject of much discussion and speculation since the very early part of 1981.

Shortly after the Commission adopted the Comprehensive Management Plan and the Governor approved it, Senator Perskie announced that in his opinion the Pinelands Plan required substantial changes to be successful. The drafting of a bill to effectuate these changes then began and continued during the next six months. As the proposal evolved and the prospect of such a bill received more publicity, many Pinelands municipalities hesitated to begin the revisions to their master plans and land use ordinances that would bring them into conformance with the Pinelands Plan.

This was not unexpected for two reasons. First, many municipal officials had at that point substantial reservations about the Pinelands Plan and felt that the prospective bill might alleviate many of those concerns. Second, the revision of municipal master plans and land use ordinances represented a significant undertaking for most towns. Many local officials felt that committing themselves to such an investment of money and effort was ill advised while discussions continued regarding the substance of the Pinelands Plan.

Speculation regarding the bill ended in the latter part of June with the introduction of S-3335. At the same time, a companion bill, A-3575, was introduced in the Assembly. These bills proposed amendments to no less than 40 sections of the Pinelands Protection Act and indirectly to the Comprehensive Management Plan. Among the most significant concepts embodied in the bills were provisions which would:

- affect the application of Pinelands Plan requirements in the Protection Area of the Pinelands. Although the proposed amendments were viewed by many as unclear in this regard, it appeared that the Plan could not mandate the types and intensity of land uses permitted within the Protection Area. The Commission would, however, still be empowered to adopt and enforce performance standards for the entire Pinelands (generally regarded as the development standards contained in Article 6 of the Plan), but the land use classifications contained in Article 5 of the Plan which control the location and magnitude of development would only be advisory in nature
- specifically reserve the designation of areas for predominant agricultural use as a municipal prerogative

- require that the Commission develop a program to permit "innovative municipal planning areas" or new towns in various locations throughout the Pinelands
- modify the procedures under which the Commission approves a municipal or county master plan and associated land development ordinances. If no action on the county and municipal requests were taken by the Commission within prescribed time limits, the plans and ordinances would be approved
- limit the Commission's ability to review development proposals to ensure that specific projects are in keeping with the Comprehensive Management Plan. A rather complicated permitting process was envisioned which in essence would allow the Commission to review development in the Protection Area with regional impacts (200 or more residential units or industrial/commercial uses involving 30 or more acres) and to reverse other locally approved projects after a review by the Office of Administrative Law and upon a two-thirds vote of the Commission's membership
- modify the Pinelands Development Credit (PDC) program and create a state bank similar to that envisioned in Assembly bill 1259. The changes in the PDC program itself included a slight revision in the way PDCs are allocated to property, a requirement that every municipality within the state allow for density increases when PDCs are redeemed, and the imposition of a redemption fee (equivalent to \$4,000 per credit) which municipalities that permit the increased development would collect from developers

Legislative hearings on Senator Perskie's bill were scheduled by the Senate Natural Resources and Agricultural Committee shortly after the bill's introduction. However, the committee took no formal action after then-Governor Byrne announced his opposition to the bill in early July. Immediately following the Governor's announcement, many Pinelands municipalities once again began the task of revising their master plans and land development ordinances.

Since then, two similar bills have been introduced in the Assembly (A-3599 in September 1981 and A-289 in the 1982 legislative session), but neither has been considered by committee. Since the current legislative session expires at the end of 1983, it seems unlikely that A-289 will be formally considered.

Pinelands Municipal Council

Bills have also been introduced in the Senate and Assembly to substantially increase the authority of the Pinelands Municipal Council. The Municipal Council, as established under the Pinelands Protection Act, is an advisory body to the Commission comprised of the 52 Pinelands Area mayors or their designees. Although initially brought together at the request of the chairman of the Pinelands Commission and funded by the Commission, the Municipal Council has not taken an active role in Pinelands planning during the last two years. In fact, the council was only able to achieve a quorum at one meeting and has not met since the Comprehensive Management Plan went into effect. Senate bill 1223 and its counterpart in the Assembly, A-1575, would allow the Municipal Council to act on formal motions and resolutions by a majority vote of those members in attendance; however, a minimum of 10 affirmative votes would be needed to carry any motion. This would allow the council to formally take positions on various issues with as few as 10 of the 52 members present.

The bills would also specifically authorize the council to review proposed regulations, policies, and budgets of the Commission prior to adoption. If the Municipal Council was to disapprove any such proposal, a two-thirds (rather than majority) vote of the Commission would be necessary to take action on the proposal. Senate bill 1218 and its companion, Assembly bill 1574, would appropriate \$50,000 to assist the operation of the Municipal Council. All four bills were assigned to legislative committees in the spring of 1982. Hearings on these bills have yet to be scheduled.

Pinelands National Cemetery

Two concurrent resolutions (ACR 34 and SCR 62) were introduced in the legislature requesting that a portion of the funds earmarked in the federal Pinelands legislation for land acquisition be set aside for the establishment of additional cemetery space for New Jersey veterans. Since their introduction, arrangements have been made for additional space outside of the Pinelands, and it is doubtful that serious consideration will be given to these proposals at the present time.

Intergovernmental Coordination

Introduction

The Pinelands Commission has long recognized that effective management of the Pinelands' resources requires the help and coordinated involvement of all levels of government. The Comprehensive Management Plan provides the framework within which the policies and programs of local, state, and federal government agencies may be coordinated. Chapter 8 of the Comprehensive Management Plan contains these consistency provisions, and Chapter 7 sets forth specific actions governmental agencies might take in implementing the Pinelands management programs.

The Comprehensive Management Plan's intergovernmental approach has three basic elements. The first element involved the participation of local, state, and federal agencies in the development of the management plan. This participation included agencies providing financial and technical assistance, preparing reports on requested topics, reviewing consultant studies, and taking part in the evolution of policies and programs. The second element is the conformance process whereby Pinelands counties and municipalities revise their land use plans and ordinances to make them consistent with the regional plan. As discussed in a separate chapter of this report, the majority of Pinelands towns and counties have now had their planning documents certified as being in conformance with the Comprehensive Management Plan.

The third element of the intergovernmental approach is the ongoing role that local, regional, state, and federal agencies have in implementing many of the Pinelands management programs. This is the current focus of intergovernmental activities and the subject of this section.

The Comprehensive Management Plan suggests specific courses for local, state, and federal involvement in implementing Pinelands management programs. These recommendations are included in the discussion of the respective management programs in Chapter 7, in Table 8.1 of the intergovernmental chapter (Recommended Involvement of New Jersey State and Regional Agencies in Implementation of the Comprehensive Management Plan), and in the discussion of the federal role in Chapter 8.

Given the great number of recommendations, it would be impractical to discuss each one separately. Instead, this section describes how key government agencies are participating in the Pinelands management effort. A chart at the conclusion of this section lists those recommendations which have been partially or wholly implemented.

There are, of course, many more recommendations which the Commission would like to see realized. Examples include: legislation establishing a state list of endangered plant species (p. 231), funding and technical assistance to municipalities for cultural resource surveys (p. 238), an extensive promotion campaign for New Jersey agricultural products (p. 245), federal funding for alternative solid waste management techniques (p. 249), studies regarding designations of natural wild and scenic rivers (p. 254), and the phasing of casino growth in accordance with the availability of support facilities (p. 259). The Commission will continue to work toward the implementation of these and other recommendations during the coming three year period.

The Role of State Agencies

The Comprehensive Management Plan recognizes the pervasive influence which state policies and programs have on public and private land use decisions. Consistency among these programs as they affect the Pinelands is seen as essential to realizing CMP objectives. This fact, along with the Commission's interest in minimizing any duplication of functions already performed by other state agencies, led the Commission to determine that portions of the Plan would be most practically administered through existing state and regional channels. The thrust of the intergovernmental program is to enlist the cooperation of the various state agencies carrying out Pinelands management programs or, at the minimum, to ensure that actions by state agencies do not conflict with the Plan. The sections below discuss how other state agencies are helping to implement the Plan.

Department of Environmental Protection

The Pinelands Commission has always had significantly more contact with the Department of Environmental Protection (DEP) than with any other state agency. This frequent contact is inevitable given the nature of DEP programs. Since the Commission's inception, the DEP has maintained a liaison to serve as the primary contact and coordinator between the Commission and the various DEP divisions. The DEP is the purchasing agency for the Pinelands acquisition program and performs other functions for which the legislature did not grant the Commission direct authority. General areas of coordination with the DEP include state lands management, water quality, solid waste management, coastal planning and development, and permit coordination. With regard to the latter, the DEP has included Pinelands permits as an item on the department's standard application form (CP #1) for construction and discharge permits. The department's activities relative to Pinelands management programs are summarized below.

The Department of Environmental Protection is responsible for administering the majority of state owned lands in the Pinelands. Through its Division of Parks, Forestry and Green Acres and the Division of Fish, Game and Wildlife, the DEP administers recreational and wildlife management areas in the Pinelands totaling over 230,000 acres. These areas are constantly being enlarged as a result of the Pinelands acquisition program. The planning and implementation of acquisition projects are coordinated between the DEP and the Commission. The DEP's Pinelands acquisition office arranges for the actual purchase of properties.

Management of all state lands must be consistent with the CMP. At this time DEP's divisions are completing land management plans for their respective landholdings. These plans include natural resource and recreational development programs which include descriptions of how these programs are consistent with the Pinelands Plan. The Commission has worked closely with the DEP in the development of these plans and programs.

Two bureaus within the Division of Parks, Forestry, and Green Acres have been a great help to the Commission in implementing certain management programs. The Commission relies on the Bureau of Forest Management to review and comment on Pinelands forestry applications. This bureau has also worked closely with the Commission in estimating the need for native tree species for reclamation purposes. The Bureau of Forest Fire Management provides technical assistance to the Commission in its planning and review function to ensure that developments have adequate fire protection. This bureau is also helping the Commission assess fire's role in maintaining the Pinelands ecosystem and identify effective fire management strategies for the region.

This assistance program is reciprocal. The Commission has provided data and technical assistance which has enhanced two programs administered by the division. The Commission has been a major contributor to the New Jersey Heritage Program. Over one-half of the program's natural and cultural resources information was supplied by the Pinelands Commission. The Commission also assisted in the development of the Lower Atsion (Mullica River) and Cedar Creek components of the wild and scenic rivers program. Both components utilize Pinelands Commission data as their predominant source of information. The staff provided comments on various drafts of the plans and regulations.

The Division of Fish, Game and Wildlife (DFGW) helps the Commission analyze the impact of land use plans and certain development proposals (such as enduros) on Pinelands wildlife. The DFGW is particularly helpful in assessing development's impact on threatened and endangered species.

The Commission is also in frequent contact with the Division of Water Resources (DWR). The DWR reviews every alternative design on-site wastewater system proposed in New Jersey. Until September 1982, when revisions were made in the Central Pine Barrens Critical Area program, the division reviewed every septic system proposed for the 760 square mile critical area, an area roughly coincident with the Pinelands Preservation Area. The division suspended this practice since it duplicated the Commission's review in this area.

The Commission has recently been consulting with the division concerning the use of an alternative design system known as the "Ruck" system. The benefits of the Ruck system are its ability to achieve a greater reduction in nitrates than other on-site systems and its use of conventional plumbing fixtures. The Commission requested that the division permit limited use of these systems in the Pinelands on an experimental basis, with the Commission monitoring them. Extensive discussions were held with the DEP concerning this system, and it now appears that the Ruck will be approved for use throughout the state.

For the past six months, the DWR has been involved in revising state regulations for on-site wastewater disposal systems, better known as Chapter 199 (N.J.A.C. 7:9-21 et seq.). These revisions will incorporate standards for alternative design systems into Chapter 199. Another revision will specify that methods other than the percolation test are acceptable for determining soil permeability. The Commission serves on the technical advisory committee developing these proposed revisions.

The DWR's Bureau of Water Supply recently prepared revised state stormwater regulations. After reviewing the proposed regulations, the Commission informed the bureau that greater emphasis should be placed on stormwater retention in the Pinelands. Although the bureau recognized CMP requirements for retention, this was not stressed in the statewide regulations. The bureau saw no need to modify the proposed state regulations since retention was already required in Pinelands regulations. However, the remaining provisions are generally compatible with the CMP.

Programs administered by the Division of Environmental Quality include solid waste management, radiation, noise and pesticide control programs, and air quality planning and monitoring. The Solid Waste Administration has been instrumental in the closure of landfills in the Pinelands. At this time all landfills in the Preservation Area are closed or in the process of closure. In addition, the Solid Waste Administration is working to phase out smaller, nonregional landfills and to move toward resource recovery alternatives. Its policies and practices are similar to the Commission's policies on solid waste management which are incorporated in the local ordinances of certified municipalities.

The Division of Coastal Resources (DCR) is the lead agency for the state Coastal Management Program. In accordance with the policies established in the coastal program, the DCR administers the Coastal Area Facility Review Act and its wetlands and waterfront development programs. This division also manages state-owned tidelands. The Pinelands Protection Act directed that the Commission and DEP's Division of Coastal Resources develop a strategy for ensuring coordination among policies in the coastal zone portion of the Pinelands National Reserve. The Commission and DCR have developed a draft Memorandum of Agreement which would provide the framework for this coordination. The Commission's Intergovernmental Affairs Subcommittee has transmitted the draft to the Pinelands counties and municipalities prior to making its recommendations to the Commission. Based on the comments received so far, substantial revisions are likely to be made before the agreement is finalized. The Commission has also been meeting informally with the DCR staff to develop a consistent approach in response to the Mount Laurel II decision.

In addition to these divisions, the DEP's Office of Cultural and Environmental Services has continued to provide valuable assistance to the Commission. This office has frequently assisted the Commission with cultural resources management. Grants administered through this office directly benefit the Commission. The DEP is also helping the Commission increase public awareness of the region by placing Pinelands signs on state lands and along highways in the Pinelands Area.

Department of Agriculture

The Department of Agriculture played a prominent role during the development of the Comprehensive Management Plan. At that time, the Commission formed an Agricultural Advisory Committee which recommended alternative strategies to best address the needs of

Pinelands farmers. The Secretary of Agriculture continues to chair that committee. This advisory committee and the Commission's Agricultural Subcommittee have jointly identified issues of common interest. On several occasions the Commission has joined the department in supporting agricultural-related legislation such as the farmland preservation and trespass bills. The department has provided data used in the Commission's economic analyses, reviews applications for development affecting agriculture and, through its Soil Conservation Districts, is involved in the implementation of the CMP landscaping program.

Department of Community Affairs

The Department of Community Affairs (DCA) administers several programs of relevance to the Pinelands. The State Development Guide Plan, prepared by the department's Division of Planning, is intended to provide the framework for state investment decisions which affect land use. The guide plan's policies are consistent with the Pinelands Comprehensive Management Plan. The latest draft of the guide plan (1981) essentially defers to the Pinelands planning program and indicates that the Comprehensive Management Plan will be integrated into the guide plan. The guide plan is cited frequently in the recent Mount Laurel II decision. In that decision, the municipalities identified in the guide plan as "growth areas" are responsible for ensuring opportunities for affordable housing. The Department's Division of Housing has offered its assistance to the Commission in developing strategies which respond to the directives of Mount Laurel II.

The Department of Community Affairs serves as the state clearinghouse for projects requiring "A-95" review. Circular A-95 of the Office of Management and Budget sets forth procedures for state and local review of applications for federal assistance under various grant and loan programs. The department transmits all of the A-95 applications within the Pinelands National Reserve to the Commission for its review and comment. Through this review process, the Commission is apprised at an early stage of applications for federal assistance. The Commission comments on the proposed project in terms of its consistency with the Comprehensive Management Plan.

The department also administers the licensing program for building inspectors operating in New Jersey. Building inspectors employed by the DCA frequently serve as the inspector for a local municipality. The Commission staff has provided assistance to those inspectors operating in the Pinelands to ensure that their actions are consistent with Pinelands Plan regulations.

Department of Energy

The state Energy Master Plan recognizes the Pinelands as a sensitive area and accordingly restricts new energy facilities here. The Department of Energy has provided the Commission with the opportunity to comment on proposals for energy facilities in the Pinelands. One such example concerned the possible location of an offshore pipeline. During the municipal conformance process, the Commission staff referred towns to the department for assistance in preparing the energy elements of their master plans. The Commission also reviewed the department's model ordinance and suggested revisions to make it consistent with the Comprehensive Management Plan.

Department of the Public Advocate

The Department of the Public Advocate assists citizens on a wide range of issues in their dealings with state agencies, other governmental agencies, and regulated industries. The Commission's major interaction with the department is through its Division of Public Interest Advocacy which handles cases related to topics such as health, housing, environment, and energy. This division, in the forefront of the Mount Laurel issue, assisted the Commission in the development of the CMP housing program. It also maintains an active interest in Plan implementation, especially as planning and development review decisions impact housing opportunities for low and moderate income families. The division also monitors Commission policies for geographic areas of concern to the division, such as western Berkeley Township. The division's interest in this area stems from its opposition to the CAFRA permit for the construction of a sewer interceptor which would have allowed intense development in western Berkeley Township.

Department of Transportation

The Department of Transportation plans and administers programs for public transportation and highway services in the state. One concern expressed in the Comprehensive Management Plan was the need to discourage projects which would generate growth within areas of the Pinelands slated for low densities. The department's recently released long range plan for surface passenger transportation responds to this concern. Projects traversing more restrictive areas within the Pinelands are generally classified in "Category III." This category includes projects which have been dropped from further consideration because their previously anticipated need has not materialized or because they are inconsistent with current state policy. Examples of Category III projects are the proposed dualization of Route 72 (Preservation Area) and the construction of Route 50F through central Atlantic County (Forest Area).

Department of the Treasury

Responsibilities of the Department of the Treasury include developing and administering the state budget, administering state tax policies, assisting local boards of taxation in carrying out their statutory duties, and providing advice regarding uniform appraisals of property. The Division of Taxation has been particularly helpful to the Commission during the Plan implementation period. The division transmits to the Commission on a regular basis computer printouts containing data on all real estate transactions in the seven Pinelands counties. The Commission analyzes this information as part of its assessment of the CMP's fiscal impact. The Commission in turn makes the results of its analyses available to the division. The Commission and Division of Taxation have also discussed the feasibility of placing a symbol indicating Pinelands Area transactions on transaction reporting forms. The division has not yet acted on this suggestion.

Initiatives by Other State Agencies

In addition to the actions of the agencies discussed above, a number of other state agencies have helped implement elements of the Comprehensive Management Plan.

The New Jersey Highway Authority recently offered to erect signs along the Garden State Parkway indicating that the motorist is entering the Pinelands National Reserve. The Division of Travel and Tourism (Department of Commerce and Economic Development) promotes public awareness of the Pinelands through its brochures and other information packets. The division has also distributed Commission brochures at its information centers. The Department of Education, through county school superintendents, has distributed Pinelands information packets to teachers throughout the state.

In response to a request from the Commission, the New Jersey Real Estate Commission distributed information on Pinelands regulations to all Pinelands Area Realtors. The information included a map indicating Pinelands Area boundaries and a notice which all Realtors were requested to provide to prospective buyers in the Pinelands Area. The Office of Business Advocacy (within the Department of Commerce and Economic Development) has offered suggestions regarding the Commission's development review function. The New Jersey Air National Guard (Department of Defense) has been working with the Commission on a management plan for the Warren Grove area. This study is being coordinated by the National Park Service (Department of the Interior).

The Federal Role

Federal policies and programs exert a considerable influence on the Pinelands. Chapter 8 of the Comprehensive Management Plan discussed relevant programs and responsibilities of key federal agencies and indicated how these programs might contribute to the Pinelands management program. The CMP also made specific policy recommendations aimed at promoting the conformance of federal government activities with the Comprehensive Management Plan. Federal initiatives relative to the CMP are discussed below.

The Department of the Interior has the greatest level of direct involvement in the Pinelands management program. A representative of the Secretary of the Interior serves as a member of the Commission and therefore has a voice in all decisions which come before the Commission. The Secretary's representative was instrumental in reconvening the Federal Advisory Committee to discuss CMP-related issues. The representative also functions as a liaison

between the Commission and the various agencies within the Interior Department. Agencies within the Department of the Interior whose programs have particular relevance to the Pinelands include the National Park Service (NPS), the United States Fish and Wildlife Service (FWS), and the United States Geological Survey (USGS).

The National Park Service provides staff assistance to the Secretary's representative and serves as the day-to-day liaison between the Interior Department and the Commission. The National Park Service also processes funding applications for state acquisition projects and has embarked on studies at the request of the Commission or the New Jersey Department of Environmental Protection. These study topics include the development of a management plan for the Warren Grove target range, a Pinelands interpretive program, Pinelands vernacular architecture, and sand and gravel mining. The NPS is also helping the Commission develop an automated management information system.

The U.S. Fish and Wildlife Service has provided technical assistance to the Commission on a continuing basis in the areas of wetland protection, wildlife habitat evaluation, and environmental impact assessment. At the Commission's request, the Fish and Wildlife Service accelerated the completion of the national wetlands inventory for New Jersey.

The U.S. Geological Survey has worked closely with the Commission in assessing the water resources data needs of the Pinelands. This agency has also helped develop monitoring projects to evaluate the relationship between land use changes and water quality. Several specific proposals are now being considered. The U.S. Geological Survey also assisted the Commission in reviewing the feasibility and possible environmental impacts of an underground natural gas storage facility in the Pinelands.

The Department of Agriculture's Soil Conservation Service (SCS) is helping the Commission establish a comprehensive approach for the use of native species in Pinelands landscaping. Additionally, SCS representatives discussed with the Commission the possibility of designing a research program to address questions associated with the use of native Pinelands species.

The Commission has had numerous discussions with the Farmers Home Administration (FmHA) and the Department of Housing and Urban Development (HUD) concerning the acceptability of alternative design septic systems in the Pinelands. Until recently, neither agency would approve a federally insured or financed mortgage for a home utilizing an alternative design septic system. Exclusion of such systems created a hardship on many Pinelands landowners. At the request of the Commission, HUD has agreed to accept pressure dosing systems recommended by the Commission and approved by the DEP. A similar request is being considered by the FmHA.

The Environmental Protection Agency (EPA) is currently evaluating the feasibility of designating the Cohansey Aquifer as a sole source aquifer. Sole source designation would establish a federal review requirement for projects of a certain size which would affect the aquifer. One advantage of this designation would be the additional protection afforded through the review of projects adjacent to the Pinelands but outside the review of the Commission. The Pinelands Plan recommended that the EPA consider designating the Cohansey and Kirkwood Aquifers as sole source aquifers.

The Commission is considering formalizing aspects of its relationship with key federal agencies through Memoranda of Agreement (MOA). One proposed memorandum, which is currently under review, will establish the basis for several federal and state agencies to assist the CMP cultural resource program. Signatories to this MOA would include the National Park Service, the Advisory Council on Historic Preservation, and the Department of Environmental Protection's state historic preservation officer. A second proposed MOA pertains to the environmental policies of the Fort Dix military installation in the Pinelands. Upon completion, this MOA is intended to serve as a prototype for the other defense facilities in the Pinelands. This agreement, drafted and approved by the Commission in 1980, has not yet received formal Department of Defense approval. The Commission is currently reviewing the master plan for the Lakehurst Naval Air Engineering Center (NAEC). The NAEC has requested that the Commission certify the master plan as being consistent with the CMP.

Regional and Subregional Initiatives

A variety of regional and subregional agencies administer programs which can impact the Pinelands. These agencies include interstate agencies such as the Delaware Valley

Regional Planning Commission (DVRPC) and the Delaware River Basin Commission (DRBC) as well as county and subcounty groups. The Commission's involvement with these various entities is discussed below.

The Delaware Valley Regional Planning Commission is a regional planning agency carrying out programs in transportation planning, land use, open space, water supply, and water pollution. Among its other responsibilities, the DVRPC is the designated "208" planning agency for Burlington, Camden, and Gloucester Counties (also referred to as the Tri-County 208 Area). A representative of the Commission serves on the Tri-County 208 Advisory Committee.

The Advisory Committee has recently been working on an evaluation of water supply alternatives for the Camden area. The study was undertaken in response to concerns that the area's continued reliance on the Raritan-Magothy Aquifer may lead to salt water intrusion into that aquifer. One alternative under consideration is the possibility of tapping the Cohansey Aquifer. The Commission has consistently opposed this alternative and prepared testimony to this effect which it transmitted to the DVRPC, the Department of Environmental Protection, and the Delaware River Basin Commission which controls activities affecting water flow in the Delaware River Basin. The Pinelands Commission is represented on the advisory committee and will continue to encourage the evaluation of other alternatives to alleviate metropolitan Camden's water supply problems.

For the past year, Burlington County has been involved in the preparation of a countywide septic and sludge management plan. The purpose of the plan is to develop environmentally acceptable methods for disposing septic and sludge generated within the county. The Pinelands Commission is represented on the county's Citizens Advisory Committee, and it uses this forum to register its comments on the septic plan as it is developed.

The Commission has also been involved with the Southern Burlington County Septage Management Study Committee. Although the Commission was not an official member of the committee, a Pinelands staff member regularly attended meetings and provided technical assistance to the committee and its consultant. In April 1983 the committee issued its report which contained recommended solutions for identified septic problem areas such as Lebanon Lakes, Barton Lake, and Fawn Lake Village. The Commission offered comments on these recommendations that would make them consistent with the Comprehensive Management Plan. Actions recommended in the septic management plan are intended to be implemented through local initiatives. No initiatives of this sort have occurred to date.

Other subregional initiatives in which Commission representatives have participated include the Burlington County Solid Waste Advisory Council and the Citizens Advisory Committee for the "201" Facilities Plan for the Atlantic Basin of Camden County. With regard to the latter, the Commission presented testimony stressing the need to sewer all Pinelands Regional Growth Areas within the county. The Commission also passed a resolution endorsing Chesilhurst Borough's application to the FmHA for sewer funding. Shortly thereafter, Chesilhurst received FmHA approval of its sewer grant application.

Local Government's Role

The Commission's interaction with municipal and county governments is extremely important. The land use programs of the Pinelands Plan rely on implementation measures taken by municipalities and counties. The Commission has therefore focused much of its time and resources during the past three years on the so-called conformance process. The coordination of the development permitting process has also been the focus of many meetings between the Commission staff, municipal planning boards, and building inspectors.

As the initial stage of municipal and county planning draws to a close, it is anticipated that the Commission will be able to offer more technical assistance and advice to municipalities on specific local planning issues. The issues include open space and recreation planning, cultural resources management, capital improvements planning, and more effective means of local ordinance requirements.

The Commission's own planning initiatives have also benefited from this coordination with local governments. The most notable examples of these benefits have been the help of municipal tax officials in the Commission's economic analysis, the participation of municipal and county officials on the cultural resources advisory committee, and the comments and suggestions received on the proposed agreement to coordinate Pinelands Commission and

Coastal Area policies. Although the Pinelands Municipal Council has been inactive since the CMP was adopted, these less centralized means of coordination have proven invaluable.

Undoubtedly, the level of communication and coordination between all levels of government in the Pinelands has greatly improved in the past three years. Nevertheless, many of the CMP recommendations are yet to be realized, and other issues which warrant attention are continually emerging. One of the greatest challenges facing the Commission will be to ensure that the land use and resource protection objectives of the CMP and certified local plans are not weakened through a lack of coordination with other government agencies.

Table 9.2
Summary of Steps Taken to Implement
Recommendations of the Comprehensive Management Plan

Recommendation	Primary Action Agency (Refer to Abbreviation Code)	Steps Taken
Establish a registry of Pinelands Development Credit offerings and sales to better inform potential buyers and sellers	PC/LEG	The proposed Pinelands Development Credit Bank Act (A-1259) includes a registration system to cover certificates issued and PDC transfers which are consummated. Informal discussions have been held with several area Realtors regarding a listing service to bring sellers and buyers together
Cooperate with private foundations to pursue various acquisition endeavors	PC/DEP	The New Jersey Conservation Foundation and the Nature Conservancy have recently acquired conservation lands in the Pinelands. Both organizations continue to identify potential projects of interest to the Commission and DEP and a close liaison is maintained with them
Simplify appraisal and administrative procedures which delay and complicate the state's land acquisition program	DEP	Although the procedures are still very complex and time consuming, title searches have been simplified and shortened
Adopt Pinelands water quality standards as part of the statewide water quality program	DEP	DEP has reviewed the data upon which the Pinelands Commission based its water quality (nitrate) standards and advised that the data supports those standards. The department has also indicated that these standards will be considered when the statewide standards are revised
Designate the Kirkwood and Cohansey formations as a sole source aquifer under the federal Safe Drinking Water Act	EPA	The Environmental Protection Agency is actively considering a proposal for sole source designation
Examine the feasibility of improving the level of treatment in existing wastewater plants	DEP/PC	Although no comprehensive program has been initiated, DEP is cooperating with the Commission and the Department of Human Services to upgrade existing plants at the Woodbine and New Lisbon state schools
Utilize the Pinelands dilution model for evaluating septic systems within the "Critical Area"	DEP	Since the Commission reviews septic system impacts associated with development in the Pinelands, DEP has eliminated its review within the state designated "Critical Area" and thus no longer uses a septic system dilution model

Conduct small community alternative system studies as a means to correct existing septic system problems	DEP/C/M	The Southern Burlington County Septage Management study is pursuing the use of small community systems to alleviate existing septic system problems in several areas. The DEP has also approved the use of the "Ruck" septic system which is adaptable to communal use
Establish a reward system for reporting illegal dumping	LEG	The Major Hazardous Waste Facilities Siting Act contains provisions for a reward system
Include underground petroleum storage facilities in the NJPDES permitting system	DEP	DEP staff have informally advised the Commission that underground petroleum storage tanks will be considered for inclusion in the NJPDES program
Emphasize "retention" of stormwater in statewide stormwater management planning	DEP	Although DEP revised the statewide stormwater management regulations, it declined to emphasize retention of stormwater reportedly because retention was not of statewide concern
Improve habitat management practices within state lands to maintain the region's natural diversity	DEP	The DEP Division of Fish, Game and Wildlife and Division of Parks, Forestry and Green Acres are preparing land management plans which address the need for habitat management practices which are consistent with the maintenance of a characteristic Pinelands landscape
Expedite the national wetlands inventory for the Pinelands	DOI	The U.S. Fish and Wildlife Service completed the wetlands inventory for the Pinelands well ahead of schedule and it serves as an invaluable planning tool to supplement other wetlands data
Increase the propagation of native tree species in state nurseries	DEP	The DEP's Division of Parks, Forestry and Green Acres now propagates pitch pine seedlings for public and private use in the Pinelands
Establish a regional cultural resources advisory committee	PC	The Commission formed an advisory committee on cultural resources management which is comprised of local, state, and federal officials, professionals in the field, and citizens
Mark important scenic, natural, and historic areas within the Pinelands	PC/DEP/C/M	The N.J. Parkway Authority and the DEP's Division of Parks, Forestry and Green Acres are cooperating with the Commission on a program to sign selected areas in the Pinelands. The Pinelands Commission is also seeking foundation support to expand upon these efforts to include natural, cultural, and historic areas of interest
Prohibit the sale of non-returnable cans and bottles	LEG	Although various bills have been and are being considered, none have received widespread support at this time
Improve the terms under which state lands are leased for agricultural use	DEP	The DEP has recently entered into longer term leases with farmers who lease state property for agricultural use. This permits greater capital investment for land improvements
Streamline open burning regulations to benefit ongoing agricultural operations	DEP	The DEP has revised its regulations to provide greater flexibility in agricultural operations. In designated agricultural areas, however, additional flexibility is still possible
Increase financing to support capital costs involved in improving agricultural management practices	ASCS/EPA	The state is now providing funding for soil and water conservation projects through the Agriculture Retention and Development Act

Improve existing trespass legislation to better protect agricultural operations	LEG	The Commission has endorsed four bills which provide greater protection to agricultural landowners from trespass and vandalism
Continue the Agricultural Advisory Committee which assisted the Commission in the development of the Comprehensive Management Plan	PC	The Agricultural Advisory Committee remains active and is exploring several cooperative efforts which the Commission's newly formed Agricultural Subcommittee has recommended
Adapt state wild and scenic river regulations to conditions in the Pinelands	DEP	The Pinelands Commission has provided detailed recommendations to DEP covering Wild and Scenic River rules and regulations. The thrust of these recommendations concerned revisions which would reduce replication in application procedures and facilitate application review. DEP has not incorporated the suggestions in its rules
Place special emphasis on Wild and Scenic River studies of Pinelands rivers	DEP	The DEP has designated the Lower Atsion (Mullica River) as a Wild River and has adopted rules and regulations to govern the river area. The department is continuing a study of the Cedar Creek for possible inclusion as part of the state's Wild and Scenic River system.
Evaluate the current alignment of the Batona Trail and take steps to permanently protect the trail in areas where it crosses private land	DEP	The Pinelands Commission has met with the Batona Hiking Club and the Division of Parks, Forestry and Green Acres to explore alternative routing options. The New Jersey Conservation Foundation is also evaluating the matter
Establish a committee to develop and coordinate comprehensive interpretive programs in the Pinelands	DEP/PC	A committee composed of representatives from the National Park Service, DEP, Pinelands Commission, conservation groups, educators, and interested citizens has been formed and is exploring various options for improving interpretive programs in the Pinelands
Encourage the adequate provision of infrastructure to accommodate planned development in Regional Growth Areas	PC	An Economic Development Subcommittee of the Commission has been formed and is cooperatively pursuing a project with the region's home builders' associations to identify priority areas for sewerage and pursue financing/construction options
Develop a memorandum of agreement with the Division of Coastal Resources to promote better coordination in that area of the Pinelands National Reserve within the state's coastal area	DEP/PC	A draft coordination agreement has been circulated for public review. Based upon comments received to date, the agreement is likely to be substantially revised
Develop a memorandum of agreement between those agencies primarily interested in the protection of historic resources to better define roles and responsibilities within the Pinelands	DOI	An agreement between the Department of the Interior, the Federal Advisory Council on Historic Preservation, the Department of Environmental Protection, and the Pinelands Commission has been drafted but not yet acted upon by the parties. The purpose of the agreement is generally to outline financial and technical assistance roles of the various agencies
Develop agreements with federal installations to implement the Pinelands Plan within federally owned and managed areas	DOD/DOT/ DOI/PC	The Commission approved an agreement with Fort Dix in December 1980; however, the Department of Defense has not yet executed it
Provide comments on federally assisted projects to federal grant making agencies through the "A-95" review process	PC/DCA	The Pinelands Commission continues to participate with the Department of Community Affairs in the A-95 review process
Develop a management program to promote conservation and recreation uses within the Warren Grove target range	DOD/DEP/ PC/DOI	A management plan for the Warren Grove target range is being cooperatively developed by the Commission, Department of the Interior, and the Air National Guard

Continue the Federal Advisory Committee which assisted the Commission in the development of the Comprehensive Management Plan	DOI	The Federal Advisory Committee continues under the auspices of the Department of the Interior and the Federal Regional Council. Although the committee has been relatively inactive, cooperative efforts have been undertaken with member agencies. The most notable has involved the Department of Housing and Urban Development in regard to federal home loan construction standards and their effects on the use of alternative design septic systems
Expand the in-lieu-of-taxes program in the Pinelands	LEG	Several bills to supplement municipal financial aid programs have been introduced and are discussed in Chapter V
Prepare a travel guide to assist visitors to the Pinelands	PC/COM	The state Division of Travel and Tourism has not been receptive to preparing Pinelands-related travel brochures; however, the DEP has prepared a brochure highlighting Pinelands rivers, the Commission has assembled a packet of information on recreation activities, and a bike and hike guide is now nearing completion
Prepare a guide to inform homeowners about landscaping materials and designs which minimize environmental damage	PC	The South Jersey Resource Conservation and Development Council conducted a survey of area nurseries to identify sources of native Pinelands plants for landscaping purposes. A proposal to seek foundation support to prepare a landscaping guide is currently being reviewed by the Commission
Develop curricula which highlight Pinelands cultural and ecological values	PC/DEP	The Commission has developed an education program which is now partially financed by private foundations. This program includes curriculum-related projects
Continue to publish the Commission's newsletter, the "Pinelander"	PC	The Pinelander is published six times a year by the Commission and distributed to approximately 5,000 individuals and organizations
Sponsor lecture series to better inform the public about the natural and cultural features of the Pinelands	PC	Annual lecture series have been sponsored by the Commission on the region's history. The Commission is presently seeking foundation funding for a lecture series on natural resource topics

ABBREVIATIONS

ASCS	- Agricultural Stabilization and Conservation Service
C	- Counties
COM	- Department of Commerce and Economic Development
DCA	- Department of Community Affairs
DEP	- Department of Environmental Protection
DED	- Department of Education
DOD	- Department of Defense
DOI	- Department of the Interior
DOT	- Department of Transportation
EPA	- Environmental Protection Agency
LEG	- New Jersey Legislature
M	- Municipalities
PC	- Pinelands Commission

Housing Program

During the development of the Pinelands Plan the Commission received a great deal of comment on its responsibilities as a regional planning agency and its role in providing adequate housing choices. From these comments a consensus developed on the Commission that fair share housing issues must be addressed in the regional plan. The Commission ensured that sufficient land would be available to accommodate housing demands, but it also realized that it needed to address the question of affordable housing.

The issue of municipal responsibility in providing low and moderate income housing crystallized in 1975 with the issuance of the New Jersey Supreme Court's Mount Laurel decision. In that case the Court set forth, for the first time, the doctrine that municipal land use regulations must provide a realistic way to ensure that a region's need for low and moderate income housing would be met. Municipalities were encouraged to utilize a variety of techniques to achieve these goals, but they were slow to respond. Rather than clear up the issue, the initial Mt. Laurel decision and subsequent decisions resulted in a spate of housing lawsuits throughout New Jersey. In 1980 the Supreme Court, realizing that most of the housing cases addressed the same issues, decided to hear and decide six housing cases, including Mt. Laurel, simultaneously.

It was against this backdrop that the Pinelands Commission addressed the housing issue, as the cases were argued before the Supreme Court at approximately the same time as the Commission was developing its housing policy. After consulting with several agencies and individuals, in particular the Public Advocate's Office, a housing policy began to emerge. Since the Commission assumed substantial responsibility in determining land use regulations for the region, it became apparent that the Commission would also have to assume responsibility for ensuring that the region's low and moderate income housing needs were met. With the first Mt. Laurel decision in mind, the Pinelands Commission included within the Comprehensive Management Plan a housing program which would be administered by the Commission prior to municipal conformance and by municipalities after conformance.

The program as outlined in the Pinelands Plan consists of "mandatory set-asides." Development activities involving the construction of 25 to 99 units would have to include at least 25 percent low, moderate, and middle income units, providing that at least four-fifths of the total were affordable to low and moderate income households. For developments of 100 units or more, 10 percent were required to be low income, 10 percent moderate income, and five percent middle income. After conformance a municipal plan and ordinance for towns with Regional Growth Areas were required to show that 10 percent of all available units in a growth area were affordable to low income households, 10 percent to moderate income households, and five percent to middle income households. The income thresholds were based on the median of household income as determined by the U.S. Department of Housing and Urban Development; low income was defined as an annual income of less than 80 percent of the median for the county or SMSA, moderate as 80 percent to 100 percent of the median, and middle as 100 percent to 120 percent of the median.

The Commission's housing program for certified towns also required that minimum floor area requirements not be applicable to lower income units, that the required lower income units be made available at approximately the same rate as non-required housing, and that the required units would continue to be available to low, moderate, and middle income households. The Plan also provided that municipalities could develop their own housing program as long as it provided housing opportunities for low and moderate income families. Where the attainment of the minimum percentages was demonstrably impossible, the Plan provided that a substitution or donation of developable land or an equivalent amount of money may be made to an appropriate state or local agency. As part of its housing program the Commission recommended that the Casino Control Commission consider the possibility of phasing in casinos so that housing and services could be provided and that the two percent casino reinvestment tax be earmarked for projects which provide least-cost housing.

The Pinelands Plan designated 22 municipalities with Regional Growth Areas in the Pinelands Area, and during the conformance process each one of these towns was required to address the Plan's housing program. Many municipalities undertook analyses to demonstrate the extent to which the program was or was not applicable to their situation. Among these types of analyses were calculations of sales prices of existing housing stock, with the intent of

showing whether existing housing stock could meet lower income needs, and calculations of vacant land to show the extent to which new units could be accommodated. Based on these analyses, municipalities sought to alter the Plan's program to meet local needs.

While Pinelands municipalities were undertaking these revisions, many people were awaiting the Supreme Court's second decision in the Mount Laurel case. The cases had been argued in October and December of 1980, and the Court's decision was eagerly anticipated. On January 20, 1983 the cases were decided, and the Supreme Court strongly reaffirmed and elaborated on the doctrine it had established in Mount Laurel I. The Court noted that there was widespread non-compliance with the constitutional mandate of its original opinion and indicated that it was not going to allow this to continue. The opinion of the Court, delivered by Chief Justice Wilentz is explicit, stating on the second page "...We intend by this decision to strengthen it [the Mt. Laurel doctrine], clarify it, and make it easier for public officials, including judges, to apply it."

The Mount Laurel II decision was so extensive and sweeping that it is extremely difficult to summarize. Fortunately, a syllabus was provided with the written opinion, and while not part of the opinion of the Court nor reviewed and approved by the Court, it does contain a review of some of the Court's rulings. This outline can be summarized as follows: 1) the State Development Guide Plan's growth areas will ordinarily determine whether a municipality is subject to the Mount Laurel doctrine, so long as the plan is regularly revised and reflects sound planning principles; 2) a zoning ordinance must provide a realistic opportunity for construction of a fair share of the region's lower income housing, which may include the use of affirmative measures such as mandatory set-asides and density bonuses, as well as cooperation on subsidies, and least cost housing will only satisfy the doctrine if the other devices fail entirely; 3) a zoning ordinance in compliance with Mt. Laurel may also include conventional zoning and will be protected from further litigation for a period of six years; 4) the impact of the doctrine will be moderated by trial courts to avoid major transformations and phasing may be used where necessary; 5) effective remedies must be utilized where noncompliance has occurred and the trial court can invalidate ordinances and retain jurisdiction; 6) a builder's remedy will be granted more often, depending on other standards and factors; 7) excessive litigation costs shall be avoided, masters will be appointed freely, trial courts should ordinarily dispose of matters before appeal, and ordinarily there will be but one appeal; and, 8) three judges, each responsible for a particular area of the state, will handle all future Mt. Laurel litigation.

While the syllabus outlines the major legal points of the decision, there are some important factors, particularly in relation to the Pinelands housing program, that are not covered. In a footnote to the decision, the Court defines low income families as those whose incomes do not exceed 50 percent of the median income and moderate income families as those whose incomes do not exceed 80 percent of the median income. The Commission had used higher figures, as noted earlier. The Court also ruled that the decision did not apply to middle income families. The Commission had included middle income families within its housing program. The Mt. Laurel II decision therefore appeared to require revisions to the definitions used in the Pinelands housing program.

One final item of great relevance to the Pineland housing program is the Supreme Court's use of the State Development Guide Plan's growth areas as a measure of where lower income housing will be required. At the time of final preparation of the State Development Guide Plan (SDGP), the Pinelands Protection Act had been adopted, thereby establishing the Preservation and Protection Areas, but the Comprehensive Management Plan had not been adopted so the management area delineations in the Protection Area were not in existence. Therefore the SDGP delineated the Pinelands Area as Protection and Preservation Areas and did not apply its land classification system, nor the one later adopted by the Pinelands Commission, to the Pinelands Area. The SDGP treated the coastal area similarly.

On page 75 of the decision the Court states that "since the relationship of the work of these agencies [Pinelands Commission and Division of Coastal Resources], and of their classification of the area subject to their jurisdiction, to the SDGP was neither argued or briefed, we decline to decide in this litigation which municipalities within their bounds are subject to the Mount Laurel doctrine." The Court therefore left unresolved whether the Pinelands Regional Growth Areas were subject to the doctrine as were the SDGP's growth areas. Some direction is given

in the next paragraph of the decision where the Court states that trial judges in Mount Laurel cases in these special areas should consider the agencies' classification system to determine whether imposition of the doctrine would be consistent with the agencies' goals, or whether the constitutional obligation will under any circumstances override these goals. This statement does not provide clear direction to the Commission or the Pinelands municipalities on developing a responsive housing program, however, since the trial judges will only be involved if litigation is commenced.

Because of the obvious importance of the Mount Laurel decision to the Commission's housing program, the Commission was quick to seek clarification. On February 4, 1983, fifteen days after the decision came out, the Commission adopted Resolution No. 83-14, "Concerning the Provision of Low and Moderate Income Housing in Pinelands Municipalities." The main points of the resolution were as follows: 1) the Commission requested an opinion of the Attorney General as to the extent to which the constitutional requirements enunciated by the Supreme Court in Mount Laurel II apply to the Pinelands; 2) that if the Attorney General's opinion requires an amendment to the Comprehensive Management Plan, the staff should immediately prepare such amendments and commence meeting with the affected municipalities; 3) that until such amendments are prepared, the Commission will not require towns to adopt the Plan's housing program since it may be inconsistent with the decision; and 4) that applications for development in Regional Growth Areas shall conform to the requirements of the Commission's housing program, with the modifications that low and moderate income families shall be defined as set forth in Mount Laurel II, and that no requirements for middle income housing shall be imposed. At this writing, no opinion from the Attorney General has been received, and therefore no Plan amendments have been initiated.

During the time period in which the Mount Laurel II decision was being reached, the Supreme Court had before it another case of great relevance to the Pinelands Commission's housing program. The case was initiated by Egg Harbor Associates and concerned the imposition of a lower income housing condition as part of a Coastal Area Facility Permit. Specifically, Egg Harbor Associates was seeking to build a residential community of 1,530 units, a 500 room hotel, a 300-ship marina, a 22-story office building, and 4,200 parking spaces in the coastal area. The Division of Coastal Resources issued a conditional construction permit on August 29, 1980, with one of the conditions requiring that 10 percent of the housing had to be low-income and 10 percent had to be moderate income. The Appellate Division upheld the division's condition, and Egg Harbor Associates asked the Supreme Court to hear the case. This was granted in 1982, arguments were heard on May 10, 1983, and the case was decided on August 1, 1983.

The Supreme Court held that the Department of Environmental Protection, under the Coastal Area Facilities Review Act (CAFRA), may require a fixed percentage of low and moderate income housing as a prerequisite for granting a construction permit in the coastal zone. The syllabus of the decision summarizes the points as follows: 1) statutes like CAFRA are to be read expansively, and while primarily an environmental protection statute, DEP may regulate land use in the coastal zone to promote the general welfare; 2) based on the division's analysis of future housing needs, the conditions are reasonable and supported by substantial credible evidence; 3) CAFRA is one of three statutes addressing development in special areas of the state, the other areas being the Pinelands and Meadowlands; 4) environmental protection requires sensitive land use control, and the legislative intent behind CAFRA permits the consideration of the needs of people living in the environment; 5) CAFRA is a constitutional delegation of authority, is sufficiently specific, and the administrative regulations under the act are also valid; and 6) the low and moderate income housing requirement does not constitute an unconstitutional taking of property without just compensation.

The Supreme Court's decision in the Egg Harbor Associates case seemingly provides strong support for a housing program in the Pinelands. In discussing the Pinelands Protection Act, the Court indicates that "the Legislature established the Pinelands Commission to oversee development of the Pinelands through a management plan and, toward that end, subordinated municipal zoning power to that of the commission." In discussing the Pinelands Comprehensive Management Plan, the Court went on to say "...thus, the legislative and executive branches have recognized that protection of the environment and the provision of low and moderate

income housing are not only compatible, but essential. That approach is consistent with our suggestion that 'it is desirable that administrative agencies acting under legislative authorization assume the regulation of the housing distribution problem...' *Oakwood at Madison, Inc. v. Township of Madison*, 72 NJ 481, 499 (1977)."

A dissenting opinion in the Egg Harbor Associates case was filed by Justice Schreiber in which he indicated that he would modify the conditional permit by eliminating the housing quotas. He based his decision on the reasoning that the legislative intent for CAFRA did not give DEP the authority to impose fair-share housing since CAFRA does not grant power to DEP to promulgate master plans. In reaching this conclusion, Justice Schreiber differentiated CAFRA from the Pinelands and Meadowlands Commissions, indicating that these agencies were given express authority to promulgate land use plans and override municipalities. It would appear that Justice Schreiber is inferring that he would view a low and moderate income housing program established by the Pinelands or Meadowlands Commission differently.

Since the Attorney General has not yet clarified how the Mt. Laurel decision applies to the Pinelands, no amendments to the Comprehensive Management Plan have yet been undertaken. The Commission staff has initiated discussions with other state agencies to review their approaches and has informally discussed the implications of the Mt. Laurel decisions with several municipal officials. Some preliminary work has also been undertaken to assemble a profile of the housing status in Pinelands counties. As soon as a clear indication of the Commission's responsibilities is available, the Commission and staff will begin the work needed to ensure that the Comprehensive Management Plan, and the local ordinances regulated by it, are responsive to the constitutional doctrines of the Mt. Laurel decision.

Appendix 1

Municipalities in the Pinelands

Atlantic County

Brigantine City*
Buena Borough
Buena Vista Township
Corbin City
Egg Harbor City
Egg Harbor Township
Estell Manor City
Folsom Borough
Galloway Township
Hamilton Township
Hammonton Town
Mullica Township
Port Republic City
Weymouth Township

Burlington County

Bass River Township
Evesham Township
Medford Lakes Borough
Medford Township
New Hanover Township
North Hanover Township
Pemberton Township
Shamong Township
Southampton Township
Springfield Township
Tabernacle Township
Washington Township
Woodland Township
Wrightstown Borough

Camden County

Berlin Borough
Berlin Township
Chesilhurst Borough
Waterford Township
Winslow Township

Cape May County

Dennis Township
Middle Township*
Upper Township
Woodbine Borough

Cumberland County

Maurice River Township
Vineland City

Gloucester County

Franklin Township
Monroe Township

Ocean County

Barnegat Township
Beachwood Borough
Berkeley Township
Dover Township*
Eagleswood Township
Jackson Township
Lacey Township
Lakehurst Borough
Little Egg Harbor Township
Manchester Township
Ocean Township
Plumsted Township
South Toms River Borough
Stafford Township
Tuckerton Borough*

*Municipalities in the Pinelands National Reserve only

Appendix 2
PINELANDS COMMISSION

State Appointees

Candace McKee Ashmun	Far Hills
B. Budd Chavooshian	Trenton
Thomas B. Darlington	New Lisbon
James Hyres	Jackson
Stephen V. Lee, III	Tabernacle
Franklin E. Parker	Mendham

Chairman

John E. Vaughan	Ocean City
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County Appointees

Joan Batory	Camden
William J. Brown	Cape May
Brian McFadden	Cumberland
Hon. Damian Murray	Ocean
Charles Newcomb	Gloucester
Hon. Robert C. Shinn, Jr.	Burlington
Vice Chairman	
John Sinton	Atlantic

Federal Appointee

James W. Coleman, Jr.	Cherry Hill
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Past Commission Members: Peter J. Burke, Jr. (State); Hon. Russell Clark (Atlantic Co.); Ric Davidge (U.S.); Hon. Patrick Fiorilli (Cumberland Co.); Lester Germanio (Cape May Co.); Hazel Gluck (Ocean Co.); David Hales (U.S.); Hon. John Hendrickson (Ocean Co.); Don Kennard (U.S.); Philip Nanzetta (Atlantic Co.); Gary Patterson (State); Joseph Portash (Ocean Co.); Roger Stobbart (Cape May Co.); John Voltaggio (Cumberland Co.); Hon. Donald Wagner (Gloucester Co.); Hon. Floyd V. West (State)

Executive Director	Terrence D. Moore
Assistant Director	William Harrison
Development Review and Conformance	
Assistant Director	John Stokes
Planning and Management	

Planning

Barry Brady
Michael Bolan
Andy Jaworski
Robert Nicholson
Lisa Rosenberger
Robert Zampella

Public Programs

Robert Bembridge
Norma Campbell

Secretarial/Clerical

Shirley Banfer
Donna Buchscheidt
Sharon Griffin
Deborah Morrison
Patricia Murphy
Janet Pierce
Martha Williams
Nadine Young

Special Projects

Alice D'Arcy

Development Review

Lynn Brass
Richard Brown
Nancy Immesberger
Donna McBride
Joseph Pratzner
Susan Hullings-Slim
Peter Ylvisaker

Cartography

Robert Kirwan
Laura Miller

Appendix 3

LIST OF SUBCOMMITTEES OF THE PINELANDS COMMISSION

Agriculture

Brian McFadden,
Chairperson

Economic Development

Charles Newcomb,
Chairperson

Public Participation

Candace Ashmun,
Chairperson

Acquisition

Robert Shinn, Jr.,
Chairperson

Intergovernmental Affairs

Franklin Parker,
Chairperson

Work Plan

Joan Batory,
Chairperson

By-Laws

Franklin Parker,
Chairperson

Personnel/Budget

Thomas Darlington,
Chairperson

Conformance

B. Budd Chavooshian,
Chairperson

Plan Review

Franklin Parker,
Chairperson

Appendix 4

STUDIES AND REPORTS PINELANDS COMPREHENSIVE MANAGEMENT PLAN

- Air Quality Assessment of the New Jersey Pinelands
New Jersey Department of Environmental Protection (1980)
- An Analysis of the Fiscal Impact of the Pinelands Comprehensive Management Plan on Selected Municipalities
Government Finance Associates (1982)
- Aquatic Ecology of the New Jersey Pinelands
T. Lloyd Associates (1980)
- An Assessment of the Birdlife of the Pinelands National Reserve
New Jersey Audubon Society (1980)
- An Assessment of the Game Mammals and Birds and Small Mammals of the Pinelands
New Jersey Department of Environmental Protection (1980)
- An Assessment of Innovative and Alternate Technologies for On-Site Wastewater Disposal
D.S.I. Environmental Engineers (1980)
- An Assessment of the Impact of Septic Leach Fields, Home Lawn Fertilization and Agricultural Activities on Ground Water Quality
Kirk Brown (1980)
- Case Study Materials on Pinelands Growth Factors
Alan Mallach Associates (1980)
- A Comparison of Aquatic Species Composition and Diversity in Disturbed and Undisturbed Pineland Waters
Rutgers - Center for Coastal and Environmental Studies (1983)
- Compendium of Archaeological, Cultural, and Historical Literature of the New Jersey Pinelands
Division of Pinelands Research, Center for Coastal and Environmental Studies, Rutgers University (1983)
- Compendium of New Jersey Pine Barrens Literature
Division of Pinelands Research, Center for Coastal and Environmental Studies, Rutgers University (1982)
- A Comprehensive Inventory of Surface Water Monitoring Activities in the New Jersey Pinelands Area
Pinelands Commission (1982)
- A Conceptual Framework for Pinelands Decision Making
Rutgers University - Beryl Robichaud (1980)
- Critical Areas Study for the Pinelands
Rogers, Golden, Halpern (1980)
- Economic Analysis of the Pinelands Comprehensive Management Plan
Pinelands Commission with the assistance of Gloria L. Christian, James C. Nicholas and Joan E. Towles (1980)
- Economic and Fiscal Impacts of the Pinelands Comprehensive Management Plan
Pinelands Commission (1983)
- Fire Management Plan for the Pinelands
New Jersey Department of Environmental Protection (1979)
- Forest Vegetation of the Pinelands
Andropogon Associates (1980)
- Forestry and the Pinelands
New Jersey Department of Environmental Protection (1980)
- Growth Shapers
Alan Mallach Associates (1980)

- Hydrogeology Assessment
Betz, Converse & Murdoch Inc. (1980)
- An Inventory and Assessment of Prehistoric Archaeological Resources in the New Jersey Pinelands
Monmouth College, Department of Anthropology and Sociology (1980)
- An Inventory of Historic and Cultural Resources of the New Jersey Pinelands
Stockton State College, John W. Sinton (1980)
- Land Aquisition Cost Analysis
Gloria Christian (1980)
- Land Market and Land Development Trends in the Pinelands
Alan Mallach Associates (1980)
- Local & State Regulations of Potential Revelance for the New Jersey Pinelands
Ross, Hardies, O'Keefe, Babcock, & Parsons (1980)
- Population Trends and Demand Pressures in the Pinelands
Alan Mallach Associates (1980)
- Planning the Use and Management of the Pinelands: A Historical, Cultural and Ecological Perspective
Jonathan Berger (1980)
- Pinelands Cultural Resource Management Plan for Historic Period Sites (Draft)
Pinelands Commission (1983)
- Pinelands Water Resources Data Analysis
Pinelands Commission (1981)
- Procedural and Substantive Land Management Techniques of Potential Relevance for the New Jersey Pinelands
Ross, Hardies,O'Keefe, Babcock & Parsons (1980)
- Vol. I Introduction, Summary, and Analysis
- Vol. II Organizational, Structural, and Procedural Elements
- Vol. III Substantive Elements
- Vol. IV The Foreign Experience
- Vol. V The Taking Issue and Vested Rights
- A Procedure for Evaluating Environmental Impacts of Alternative Technologies
D.S.I. Environmental Engineers (1980)
- Reptiles and Amphibians of the New Jersey Pinelands
Conservation and Environmental Studies Center Inc. (1980)
- Report to the Pinelands Commission Regarding Financial Component of the Comprehensive Management Plan and an Evaluation of Payments In-Lieu of Taxes
Government Finance Associates Inc. (1980)
- Recreational Assessment of the Pinelands
Comitta Fredrick Associates (1980)
- Reclamation of Sand and Gravel Mining Areas in the Pinelands
National Reserve(six technical reports and an executive summary in draft) - National Park Service, Dept. of the Interior (1983)
- Social and Economic Factors Capable of Influencing Pinelands Development
Alan Mallach Associates (1980)
- Standards and Criteria for the Design and Maintenance of On-Site Wastewater Treatment System
D.S.I. Environmental Engineers (1980)
- Summary of Issues Associated with the Development and Operation of a Subsurface Gas Storage Facility in the New Jersey Pinelands (1983)

Surface Water Quality

Betz, Converse and Murdoch Inc. (1980)

Surface Water Quantity

Betz, Converse and Murdoch Inc. (1980)

Survey of Current Research in the New Jersey Pine Barrens

Division of Pinelands Research, Center for Coastal and Environmental Studies, Rutgers University (1982)

Threatened and Endangered Vascular Plant Species of the New Jersey Pinelands and Their Habitats

Center for Coastal and Environmental Studies, Rutgers University (1980)

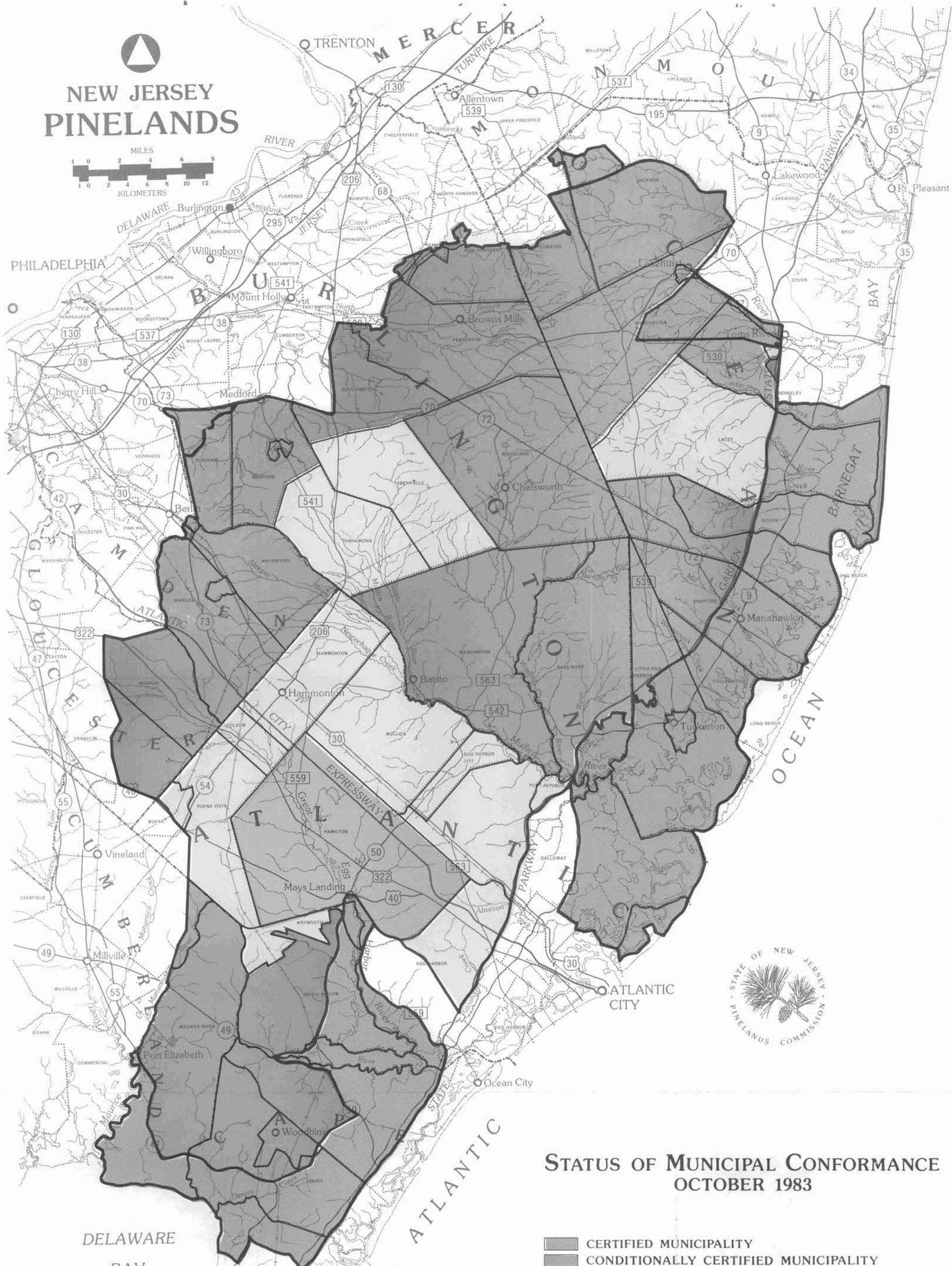
Wetlands of the New Jersey Pinelands: Values, Functions, Impacts and a Proposed Buffer Delineation Model

Division of Pinelands Research, Center for Coastal and Environmental Studies, Rutgers University (1983)



NEW JERSEY PINELANDS

MILES
0 2 4 6 8 10 12
KILOMETERS
1 0 2 4 6 8 10 12



STATUS OF MUNICIPAL CONFORMANCE OCTOBER 1983

- CERTIFIED MUNICIPALITY
- CONDITIONALLY CERTIFIED MUNICIPALITY
- MUNICIPALITY NOT CERTIFIED
- PINELANDS NATIONAL RESERVE ONLY*

* Portions of municipalities not required to conform to the Pinelands Protection Act. Colored areas represent municipalities which voluntarily revised master plans and ordinances.



