CHAPTER III

OPEN SPACE NEEDS

Determinations of Open Space

There are two methods that can be used to determine the amount of open space that should be acquired by the County. One is the acres per population method, and the other is the Balanced Land Use Method which was used in the New Jersey Open Space and Outdoor Recreation Plan 1994-1999. The acres per population method generates higher acreage requirements as population increases and land becomes more scarce.

The Balanced Land Use Method recognizes land as an exhaustible resource that is being consumed over time by development. Consequently, the Balanced Land Use Method establishes a long-range goal by establishing a minimum amount of acreage that should be reserved for open space by all jurisdictions based on the amount of developed and developable land in the county or municipality. To establish the long-range goal, the Balanced Land Use Method is the preferred method.

The acres per population method can be used to define shorter-term goals, one to five years, as a means to measure the progress of open space acquisition according to population estimates and projections. Long range population projections are less certain and unreliable for the establishment of long term goals. Actual needs will vary according to local conditions and desires, as well as the availability of other open space areas owned by other levels of government.

Land Use Trends

Table I shows land use distribution in 1960 and in 1996. In 1960, public and semi-public land accounted for 13,048 acres or 5.61 percent of the county's land area. In 1996, public and semi-public

land accounted for 24, 675 acres or 11 percent of the county's land area, an increase of 71 percent. Since 1960, developed land areas have increased 1,006 percent from 4,334 acres, or 1.86 percent of the county, to 47,961 acres, or 22 percent of the county's land area. In 1960, most of the developed land was in the traditional town centers of Alpha, Belvidere, Blairstown, Hackettstown, Oxford, Phillipsburg and Washington. Growth over the 35-year time period has occurred mostly in the rural townships. If the same trend continues for the next 35 years, almost 45 percent of the county could be developed by the year 2035, while only 13 percent of the county would be in public open space.

Population Trends and Projections

A prerequisite to establishing the park and open space objective is a review of past population trends and a projection of future growth.

Warren County is 365 square miles in land area, and because of its historical development and physical characteristics, its development pattern is not uniform and population is not evenly distributed. Various municipalities have closer orientation to one section of the county than to others by way of employment, transportation and other factors. In order to establish a more realistic basis, not only for population projections, but also for park locations that will more efficiently serve the population, the county has been subdivided into three broad planning regions, each comprising several municipalities. These regions are arranged as follows:

TABLE I

LAND USE DISTRIBUTION, WARREN COUNTY 1960 AND 1996

	1960	% of Total		1996	% of Total		% of Change
Agricultural	100,765	43.35%		121,814	52.41%		20.89%
Vacant	109,943	47.30%		24,897	10.71%		-77.35%
Total Agricultural and Vacant	**210,708**	**90.65%**		**146,711**	**63.12%**		**-30.37%**
Industrial	984	0.42%		6,125	2.64%		522.46%
Commercial	372	0.16%		4,077	1.75%		995.97%
Residential	2,978	1.28%		37,759	16.24%		1167.93%
Total Developed	**4,334**	**1.86%**		**47,961**	**20.63%**		**1006.62%**
Public/Semipublic Schools	13,048	5.61%		24,675	10.62%		89.11%
Streets	4,347	1.87%		13,089	5.63%		201.10%
Total	**232,437**	**100.00%**		**232,436**	**100.00%**		

Northern Region	Central Region	Southern Region
Blairstown Township	Allamuchy Township	Alpha
Frelinghuysen Township	Belvidere	Franklin Township
Hardwick Township*	Hackettstown	Greenwich Township
Hope Township	Independence Township	Harmony Township
Knowlton Township	Liberty Township	Lopatcong Township
	Mansfield Township	Phillipsburg
	Oxford Township	Pohatcong Township
	Washington	
	Washington Township	
	White Township	

*Includes former Pahaquarry Township.

The three regions are outlined on Map 2 (Planning Regions).

Naturally, the three regions are not isolated and there are many overlapping influences. These regions, and particularly the Central Region, might be further subdivided; however, it is believed that any further breakdown would serve no meaningful purpose for the broad scope of open space planning.

Regionally, there have been significant population changes. The Northern Region experienced increasing rates of growth from 1980 to 1990 and 1970 to 1980 and exceeded the county's rate in all decades as shown in Table II. The region, however, is the smallest in as much as it accounted for 14 percent of the county's population in 1995, an increase upward from 8.5 percent in 1960. Blairstown had the largest numerical increase since 1960, followed by Knowlton, Frelinghuysen, Hardwick and Hope Townships. Pahaquarry Township merged with Hardwick Township in 1997. All of former Pahaquarry Township is part of the Delaware Water Gap National Recreation Area. Percentage wise, Hardwick Township had the largest increase in population in the 1960-1995 period, followed by Frelinghuysen, Knowton, Hope, and Blairstown Townships. The

Northern Region has the smallest population and lowest population density of the three regions, but it has the fastest rate of growth.

The Central Region is the largest region geographically and contains the most municipalities. It also contains the largest population and is the second fastest growing of the three regions. Numerically, Hackettstown's population grew the most since 1960. Percentage wise, Allamuchy, Mansfield, Liberty, and Independence Townships, grew the fastest with over 200 percent increases in population. This northeastern quadrant of the region has experienced the most rapid rate of growth since 1960.

In 1960, the population of the Southern Region was more than the other two regions. In 1970, the population of the region was almost equal to that of the Central Region. In 1995, its population was 14,000 people less than the Central Region. Over the 35-year period, the Southern Region grew by only 8.1 percent, compared to the growth rates of 151 percent and 88 percent for the Northern and Central Regions, respectively. The Southern Region contains the least land area, but has the largest population density. Of the seven municipalities in the region, Lopatcong Township has shown the greatest numerical and percentage increase, while Phillipsburg lost almost 2,800 in population since 1960.

Past growth is not the only barometer of future growth and the trends described above may be amplified or reversed by many factors. Highway construction, sewer availability and regional developments are examples. Route I-80 and the Pocono resorts in Pennsylvania have increased development pressures in the Northern Region. In the Southern Region the completion of Route I-78 in 1989 and the lifting of the Phillipsburg sewer moratorium has resulted in an influx of residential and commercial development growth over the past several years.

Future growth projections need to be examined to fully understand the magnitude of growth

in Warren County. Projections of future population have been made by the Warren County Planning Department and are shown in Table III. The County Planning Department has estimated that the population in the year 2010 will reach approximately 108,000, an increase of 11.6 percent from 1995. As the table shows, the Northern Region will continue to capture more of the county's population by the year 2010, and the Southern Region will continue to lose its share of the overall county population. The Southern Region will, however, continue to contain the highest population density of the three regions.

Acres Per Population Method

Table III also contains a requirement for number of acres that should be in public park use according to a standard of 8 acres per 1,000 population for municipal land, and 12 acres per 1,000 population for county land. Based on the acres per population method, there should be 202 acres of county land in the Northern Region, 644 acres in the Central Region, and 446 acres in the Southern Region, for a total of 1,291 acres by 2010 in County ownership. Depending on the location, a county open space reserve could serve two regions. Additionally, an over abundance of state and federal lands may be used to offset the need for the county to acquire additional lands in a particular region. The provision of open space needs to be timed with population growth. This emphasizes the need for periodic review of population in terms of the pace of land acquisition for parks and open space; therefore, the on-going planning policy should be geared to numbers of people rather than a given year in order to compensate for possible errors in projection.

Balanced Land Use Method

Using the Balanced Land Use Method, The State Open Space and Outdoor Recreation Plan of 1994-1999 indicates that Warren County should have 3,991 acres in municipal-owned land and 9,312 acres in county-owned land. To determine the municipal requirement, the Balanced Land Use Method uses 3 percent of the developable and developed land area in the municipality. The standard for county open space is 7 percent of the developable and developed land area in the county. "Developable" land is defined as land areas not containing wetlands and slopes of over 15 percent.

The guideline for state-owned lands is 10 percent of the state land area, and for federally-owned lands, it is 4 percent of the state land area. To calculate a "fair share" of state and federal lands in Warren County, one can assume that 10% of the County's land area should be in State ownership which equates to 23,360 acres. Currently, in the county, the state land area is 13,797 acres, leaving a "shortfall" of 9,563 acres of state-owned open space in Warren County. The same assumptions and methods can be employed at reaching a goal for federally-owned land. In Warren County, federally-owned land should amount to 9,344 acres, but it currently amounts to 9,984 acres, representing a surplus of 640 acres.

Using the Balanced Land Use Method, approximately 19 percent of the county's land area should be in permanent public open space. The same methodology is used to calculate open space requirements in each of the three regions of the county and is shown in Table IV.

TABLE IV

SUMMARY OF WARREN COUNTY PUBLIC OPEN SPACE REQUIREMENTS											
	Federal		State		County		Municipal		Total		Overall
	Supply	Goal	Supply	Goal	Supply	Goal	Supply	Goal	Supply	Goal	Surplus/(Deficit)
North	9984	3528	6830	8818	386	2750	160	1179	17360	16275	1085
Central	0	3621	6964	9052	234	3487	465	1494	7663	17654	(9991)
South	0	2195	3	5490	52	3075	332	1318	387	12078	(11691)
Warren County	9984	9344	13797	23360	672	9312	957	3991	25410	46007	(20597)

According to the following table, the existing supply of open space is compared to the targeted needs of Warren County using the Balanced Land Use Method.

	Supply	Balanced Land Use Goal	(Deficit)/Surplus
Municipal	957	3,991	(3,034)
County	672	9,312	(8,640)
State	13,797	23,360	(9,563)
Federal	9,984	9,344	640
Sub Total	25,410	46,007	(20,597)
Private/ Semi-Public	5,486	------	------
Total	30,896	46,007	(15,111)

If the open space standards using population and the Balanced Land Use Method are compared, there is a wide disparity between the two, but one must remember that the population method is to meet a particular standard at a given time while the Balanced Land Use Method can be viewed as the long-term goal for open space preservation.

Efforts to acquire land for public open space should be made now to take advantage of today's lower land values rather than wait until tomorrow when land values will likely be higher. Land can also be targeted today for acquisition that offers unique scenic and environmental beauty, surface and groundwater protection, as well as recreational activities, such as hunting, fishing, hiking, and biking that could be lost if we wait too long to acquire it.