Pesticides – The WCHD addresses pesticide control by inspecting application practices and promoting integrated pest management (IPM) practices.

Noise - Noise complaints, while infrequent, can be difficult to resolve. WCHD is responsible for providing personnel and equipment capable of noise investigation.

Radon - Warren County has a Tier 1 designation, which has the highest potential for elevated levels of indoor radon. According to NJDEP, an estimated 50% of the county population is at risk for indoor radon above the 4pCi/l action level. WCHD encourages testing for indoor radon.

Solid Waste - Warren County' solid waste and recycling strategy is outlined in its *Solid Waste Management Plan (SWMP).* The county contains a Resource Recovery Facility (RRF) in Oxford Township, a landfill in White Township, a permitted composting facility in White Township and one in Harmony Township, and an asphalt and concrete recycling facility in Oxford Township. The recycling of conventional materials such as aluminum, glass and newspapers are handled in each municipality or can be brought to the county recycling center in White Township. Warren County owns the landfill while the RRF is owned and operated by Covanta Energy. Oversight of both facilities is the responsibility of the Pollution Control Financing Authority of Warren County. The SWMP was amended in November 2003 to close and cap the landfill in 2007. On-going issues concerning the solid waste and composting facilities deal with truck traffic, odors, and the impacts on the groundwater quality.

Brownfields - Brownfields are vacant or underutilized sites that are or have the potential to be contaminated with hazardous or toxic substances. The Environmental Protection Agency (EPA) has been funding Brownfield Assessment Demonstration Pilots across the nation since 1995 through its Brownfields Economic Redevelopment Initiative. The State of New Jersey is located in EPA Region 2 and in September of 1999, Phillipsburg was selected as one of several Demonstration Pilots in the Region. Phillipsburg received a $200,000 grant.

Four sites located in Phillipsburg have been identified for preliminary assessment and site investigation under this initiative. The sites include the Stockton Street property, a parcel of waterfront along the Delaware River, a bike path connecting to the proposed railroad museum and the Ingersoll Rand tract. The largest component of the pilot study is the Ingersoll Rand tract.

IV. WATER QUALITY

The New Jersey Geological Survey's "Recharge-Based Nitrate Dilution Model for New Jersey" was used to assess the ability of soils under existing zoning densities in Warren County to adequately protect water quality. Effluent from individual wastewater disposal systems has the potential to impair water quality. As noted by

the NJGS "where these systems are too close together the cumulative impact may exceed the natural ability of the environment to clean and dilute the effluent."

Nitrate is one pollutant discharged from individual on-site waste disposal systems. Concentrations of nitrate in drinking water greater than 10mg/l can cause methemoglobinemia in infants and are a health threat to the elderly. Nitrate contamination is also typically an indicator of other types of groundwater contamination.

The modeling was performed at the two thresholds used for protection of drinking water: 10 mg/l and 2 mg/l. The Maximum Contaminant Level (MCL) in drinking water, which is the enforceable standard, is 10 mg/L. However, the State of New Jersey encourages municipalities to consider a more stringent goal of 2 mg/l to protect water quality. This goal is aimed at preventing the non-degradation of water quality from the typical background level of nitrate found in groundwater.

The Water Quality Model was utilized for each municipality located in Warren County that are not entirely served by municipal sewer systems (i.e., Phillipsburg, Belvidere and Washington Borough). The model was only used to evaluate residential carrying capacity for each zoning district that relies on individual septic systems. The lot sizes recommended by the modeling are for overall density of a subdivision and do not necessarily apply to each lot within a subdivision. Additional assumptions in the model can be found in Appendix 2.

The existing minimum lot size of most zoning districts is larger than the minimum lot size needed to dilute the nitrate in the effluent to the 2 mg/l water quality goal. **Table 13** (see next page) summarizes compliance with the 2 mg/L water quality goal. However, at the nitrate standard of 10 mg/l, nearly all zoning districts are of an adequate density to sustain drinking water quality. The only districts that do not achieve the 10 mg/l standard are the AR-1 District in Knowlton and the R-1 District in Greenwich.

The State's Realty Improvement Act has a separate standard for nitrate in groundwater of 5.2 mg/l. While testing was not conducted at this standard, municipalities can use the model to assess the ability of their zoning and soils to achieve this standard.

The Reality Improvement Act also uses a standard of 8 mg/l as the minimum threshold for minimum lot sizes in cluster subdivisions. In order to further protect water quality in cluster subdivisions, the New Jersey Geological Survey recommends that deeper well casings be used and lots be arranged so that septic systems are down gradient of wells and the permanently protected open space replenishes the wells.

TABLE 13 - GROUNDWATER NITRATE DILUTION AND ZONING:
2 MG/L WATER QUALITY STANDARD

Municipality	Zoning District	Satisfies 2 mg/L Water Quality Goal	Municipality	Zoning District	Satisfies 2 mg/L Water Quality Goal
Allamuchy	SFR1		**Knowlton**	FPD	*
	RR	X		AR-1	
	PPE		**Liberty**	L-G	X
Alpha	R-1			R2	
	R-2		**Lopatcong**	R-2	
Blairstown	R-5	*		R-3/2	
Franklin	RC	*		R-5/2	
	R-75			R-10/2	X
Freilinghuysen	AR-4			R-MF	X
	AR-3		**Mansfield**	A	X
	VN-2			R-1	
	VN-1		**Oxford**	AR-200	X
Greenwich	R-7	X		R-120	
	R-2			R-80	
	R-1			R-40	
Hackettstown	R-30		**Pohatcong**	R-1	X
Hardwick	LD	X		R-2	
Harmony	AR-500	*	**Washington Twp.**	R40	
	AR-300			VR	
	AR-200			MR	*
Hope	LDAR	*	**White**	R-1	
	LDAR-H	*		R-1C	
	HMHC				
Independence	AR	X			
	R-30				
	R-2				
	R-1				

* Satisfies criteria on some lots, based on soil type

Alternative waste disposal systems have been approved by the New Jersey Pinelands Commission that reduce the nitrate levels in effluent from onsite wastewater disposal systems. The 2001 Final Report by the New Jersey Pinelands Ad Hoc Committee on Alternative Septic Systems researched several systems that can reduce the nitrate concentrations in effluent from onsite waste disposal systems. The alternative systems are discussed as recommendations in Chapter 5 (Recommendations). Should communities wish to maintain existing zoning to preserve water quality, alternative septic systems could be required as a provision to new construction. The minimum lot sizes for each zoning district to achieve the 2 mg/L goal using such systems are presented in **Table 14** (see next page). The zoning districts highlighted in bold do not meet the minimum lots size to attain the goal.

TABLE 14 – ALTERNATIVE WASTEWATER SYSTEMS
2 MG/L WATER QUALITY STANDARD

Municipality	Existing Zoning				Existing Zoning		
	District	Min. Lot Size	Needed Minimum Lot Size	Municipality	District	Min. Lot Size	Needed Minimum Lot Size
Allamuchy	***SFR1***	***1 Acre***	***1.49***	**Knowlton**	FPD	10 Acres	2.11
	RR	4 Acres	1.49		***AR-1***	***1 Acre***	***2.11***
	PPE	***1 Acre***	***1.49***	**Liberty**	A-G	6 Acre	2.11
Alpha	R-1	3 Acres	1.89		***R2***	***2 Acres***	***2.10***
	R-2	2 Acres	1.89		R-3	3 Acres	2.10
Belvidere	-	-	-	**Lopatcong**	R-2	2 Acres	1.95
Blairstown	R-5	5 Acre	1.97		R-3/2	2 Acres	1.88
Franklin	RC	5 Acre	2.05		R-5/2	2 Acres	1.88
	R-75	***30,000 SF***	***2.09***		R-10/2	2 Acres	1.88
Freilinghuysen	AR-4	4 Acres	1.86		R-MF	5 Acres	1.91
	AR-3	3 Acres	1.86	**Mansfield**	A	5 Acre	1.63
	VN-2	2 Acres	1.86		R-1	3 Acres	1.64
	VN-1	***1 Acre***	***1.86***	**Oxford**	AR-200	200,000 SF	-
Greenwich	R-7	10 Acres	2.23		R-120	120,000 SF	1.91
	R-2	***2 Acres***	***2.23***		R-80	80,000 SF	1.93
	R-1	***1 Acre***	***2.19***		***R-40***	***40,000 SF***	***1.93***
Hackettstown	***R-30***	***30,000 SF***	***1.36***	**Phillipsburg**	-	-	-
Hardwick	Low Density	10 Acres	1.89	**Pohatcong**	R-1	5 Acre	1.87
Harmony	AR-500	5 Acres	1.96		R-2	2.5 Acres	1.89
	AR-300	3 Acres	1.96	**Washington Boro**	-	-	-
	AR-200	2.5 Acres	1.98	**Washington Twp.**	***R40***	***1 Acre***	***2.09***
Hope	LDAR	5 Acres	2.00		VR	4 Acres	2.05
	LDAR-H	5 Acres	2.07		MR	5 Acres	2.09
	HMHC	***40,000 SF***	***2.07***	**White**	R-1	3 Acres	1.83
Independence	AR	10 Acres	1.52		***R-1C***	***65,000 SF***	***1.86***
	R-30	3 Acres	1.52				
	R-2	2 Acres	1.52				
	R-1	***1 Acre***	***1.52***				

V. STATE DEVELOPMENT AND REDEVELOPMENT PLAN (SDRP)

The New Jersey State Development and Redevelopment Plan (SDRP) was adopted in March 2001. The authority for the establishment of the SDRP is the State Planning Act (N.J.S.A. 52:18A-196 et.seg.). The purpose of the SDRP is to develop statewide planning objectives involving transportation, land use, economic development, housing, natural resource conservation, farmland retention, historic preservation, urban and suburban redevelopment, recreation, public facilities, public services and intergovernmental coordination. The SDRP creates a vision and a plan for the future. Sustainable development is a unifying theme in addressing development and redevelopment opportunities in New Jersey.

A. Planning Goals

Eight State Planning Goals are derived from the State Planning Act. Those goals are as follows:

1. Revitalize the State's Cities and Towns.
2. Conserve the State's Natural Resource and Systems.
3. Promote Beneficial Economic Growth, Development and Renewal for All Residents of New Jersey.
4. Protect the Environment, Prevent and Clean Up Pollution.
5. Provide Adequate Public Facilities and Services at a Reasonable Cost.
6. Provide Adequate Housing at a Reasonable Cost.
7. Preserve and Enhance Areas with Historic, Cultural, Scenic, Open Space and Recreational Value.
8. Ensure Sound and Integrated Planning and Implementation Statewide.

In addition to goals, statewide policies have been designed. These policies can be applied to improve planning and coordination with all levels of government. Several categories are included in the Statewide Policies. Statewide Policy categories include equity, comprehensive planning, public investment priorities, infrastructure investments, economic development, urban revitalization, housing, transportation, historic, cultural and scenic resources, air resources, water resources, open lands and natural systems, energy resources, waste management, recycling and brownfields, agriculture, coastal resources, planning regions established by stature, special resource areas, and design.

B. Planning Areas

Planning Areas as defined in the SDRP are "large masses of land that share a common set of conditions, such as population density, infrastructure systems, level of development or natural systems." Planning Areas do not necessarily correspond with municipal county boundaries. Instead, Planning Areas define geographic areas with similar characteristics suitable for applying planning

policies. Each Planning Area is unique and requires a unique set of objectives in order to follow Statewide Policies and ultimately meet Statewide Goals. The State Policy Map illustrates the location of all Planning Areas. The Planning Areas are categorized as follows:

- Metropolitan Planning Area (PA 1)
- Suburban Planning Area (PA 2)
- Fringe Planning Area (PA 3)
- Rural Planning Area (PA 4) and Rural/Environmentally Sensitive Planning Area (PA 4B)
- Environmentally Sensitive Planning Area (PA 5) and Environmentally Sensitive/Barrier Islands Planning Area (PA 5B)

As shown on **Figure 11-a** (see next page), Warren County currently has Metropolitan Planning Areas, Suburban Planning Areas, Rural Planning Areas and Environmentally Sensitive Planning Areas. In addition, the County has lands located within the Parks and Natural Areas Planning Area. The Parks and Natural Areas Planning Areas (PA 8) in Warren County are concentrated in the northwestern part of Hardwick Township, the eastern part of Allamuchy Township, the northeastern part of Oxford Township and the northwestern part of Mansfield Township. There are various other locations with Parks and Natural Areas as well.

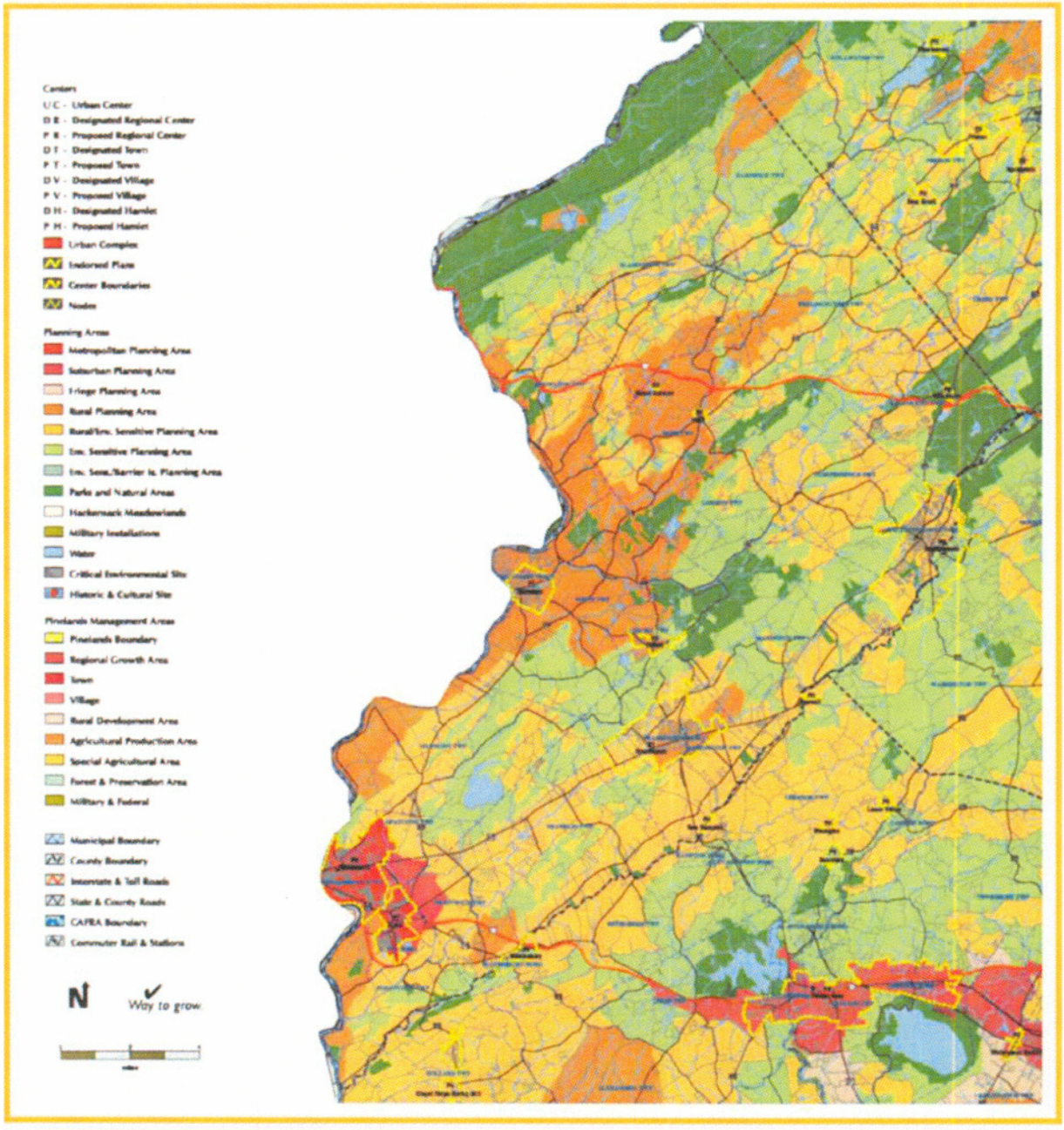
The SDRP describes five center types including Urban Centers, Regional Centers, Towns, Villages and Hamlets (**Figure 11-b**). Centers are compact forms of development that are intended to consume less land and allow for more efficient public services. In addition, compact land development also allows for the preservation of natural and open space resources.

Centers are specifically described in the SDRP in the following manner. A core of public and private services is surrounded by a development area referred to as a Center Boundary. The Center Boundary is the limit for development of the Center. The amount of development and growth to occur within a Center is dependent on its capacity characteristics, opportunities and constraints.

Warren County currently has one designated Town, two Villages and one Hamlet according to the Policy Map of the New Jersey State Development and Redevelopment Plan. The designated Town is Washington Borough, which also includes a portion of Washington Township. The two designated Villages are Oxford and Hope, while the designated Hamlet is Mount Herman located in Hope Township. In addition, there are proposed centers, including Hackettstown and Phillipsburg (Regional), Belvidere (Town), Alpha (Town) and Allamuchy (Hamlet).

Figure 11A

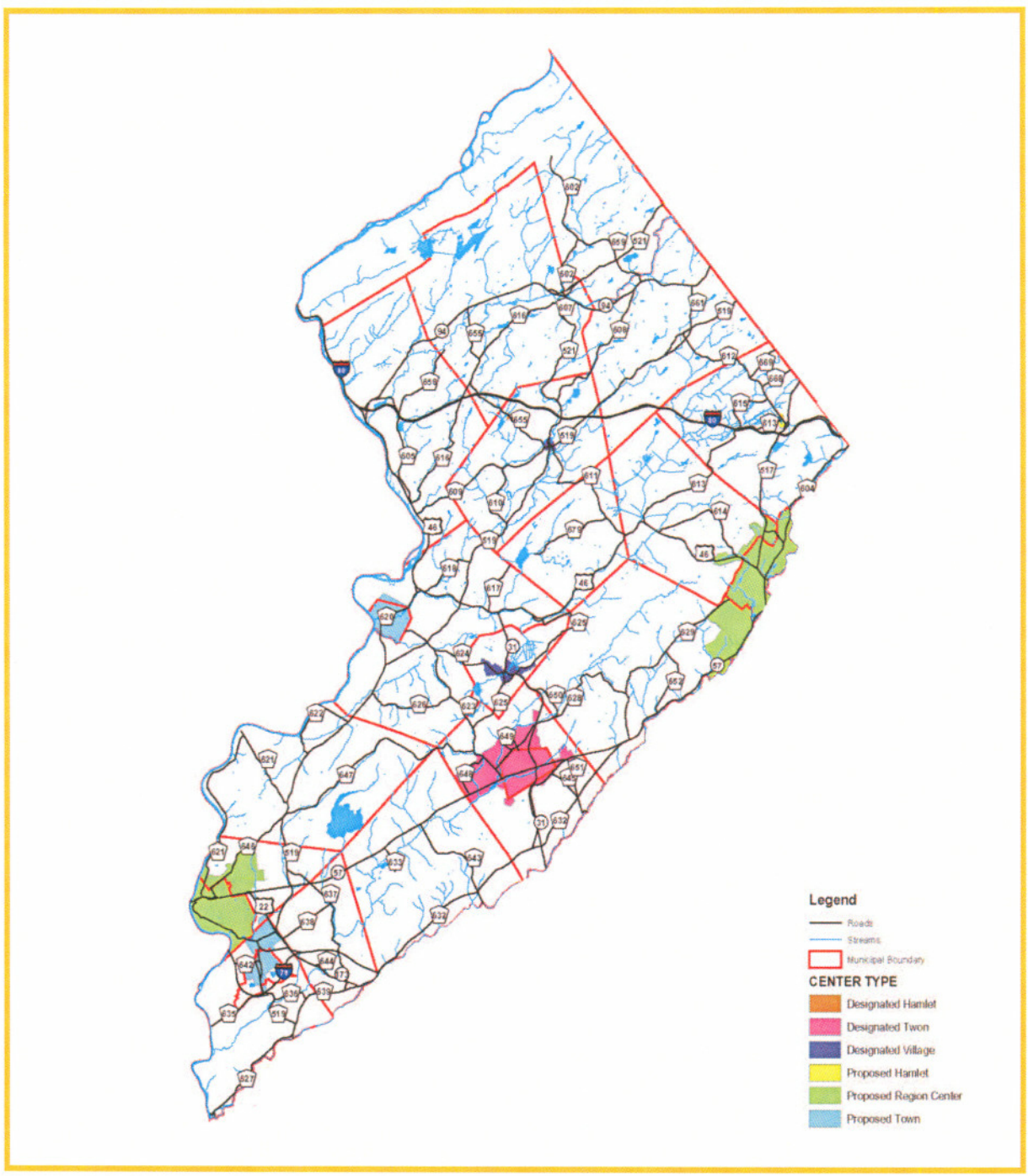
Policy Map - New Jersey State Development and Redevelopment Plan



WARREN COUNTY SMART GROWTH PLAN

Figure 11B

State Development and Redevelopment Plan Warren County



WARREN COUNTY SMART GROWTH PLAN