

**Salem County
Natural Resources Inventory**

LAND USE

LAND USE

Introduction

Salem County is an anomaly in New Jersey. In the most densely populated state in the Nation, only 10 percent of Salem County is developed for residential, commercial, or industrial use. More than half of the County's land is dedicated to environmental uses such as tidal and freshwater wetlands, lakes, ponds, and forests (natural habitats for a range of wildlife, some endangered). The remaining land, which totals more than a third of the County, is farmland.

Salem County possesses nearly ideal conditions for proponents of small town living. The land use map below illustrates its characteristic openness. Industry is limited to the Corridor along the Delaware River, and adjacent Salem City. The Corridor houses 43 percent of the County population, yet comprises only 10 percent of the total land area. Agriculture occupies vast areas in the rural central and eastern sections of the County. 2 small, but densely developed municipalities, the Boroughs of Woodstown and Elmer, are located in the interior of the County and serve as regional centers of commerce and social activity for the surrounding rural area.

Existing Land Use Analysis

In 1995, New Jersey DEP undertook a survey of New Jersey's counties and municipalities through ground and aerial observation to classify land by use. Through GIS technology, the survey has been confirmed by municipal tax and zoning maps.

The categories used to describe land use are agriculture, barren land, forest, urban, water, and wetlands. In the Corridor, agriculture, urban areas, and wetlands each contain approximately 6,500 acres, or 28 percent of the Corridor's 23,395 acres, with the remaining area covered mostly by forest.

Agriculture

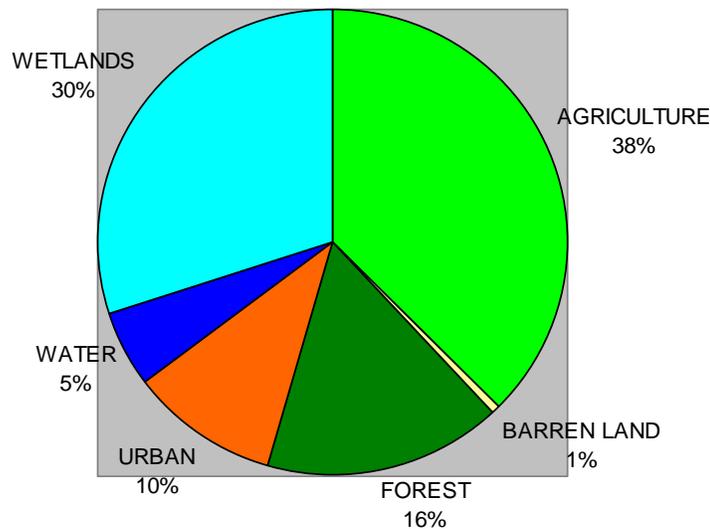
Salem County's largest single land use is agriculture. GIS surveys show 38 percent of the County's land as agricultural. However, further study by the 1998 Census of Agriculture, found that 42.6 percent of Salem County's land is under active farmland cultivation. More than 10 percent of the State's farmland is located in Salem County, and Salem County ranks second behind Burlington County in acres of farmland preserved. As of July 2001, 581 farms totaling 79,349 acres have been preserved statewide through the Farmland Preservation Easement Purchase Program. Fifteen percent of the statewide total (11,531 acres) of development rights purchased by the State Agriculture Development Committee are located in Salem County.

In 2002, the State Agriculture Development Committee issued preliminary approval to another 29 farms for preservation. In this latest round, one out of every 2 farms preserved by the State was a Salem County farm. Salem County currently has preserved 88 farms totaling 14,271 acres, not counting the 29 farms that were selected in this round.

In 2002, Salem County voters passed a referendum to establish a dedicated fund to preserve farmland and open space. This additional County tax will generate approximately \$660,000 annually.

Like the County as a whole, agricultural use is the greatest single use in the Corridor at 6,664.21 acres. The total County agricultural land is more than a third—38 percent, and the Corridor’s agricultural lands are less than a third—28 percent. Most of the Corridor’s agriculture is found in Oldmans Township and in the eastern end of Carneys Point, into Pilesgrove.

Salem County Total Area Land Use



Water and Wetlands

Water and wetlands cover approximately the same percentage of the County and the Corridor: together water and wetlands represent 31 percent of the Corridor and 35 percent of the entire County. This natural resource, while contributing greatly to the beauty of the area, greatly limits the development potential of a number of the Corridor’s municipalities. For instance, Pennsville Township, one of the most urban municipalities in the County, is 57% wetland or water.

These vast wetlands and marshlands contain unique vegetation and wildlife as well as numerous species of wildlife, some endangered. The most prevalent type of wetlands is coastal shallow freshwater marshes, such as Mannington Meadows. Salem County’s surface waters drain into 5 major drainage basins all of which feed into the Delaware River and Bay.

Forests

Forests are found in 11 percent of the Corridor and 16 percent of the County as a whole. Forested land is found mainly adjacent to wetlands throughout the Corridor. Large forested tracts are found throughout the County, particularly in Quinton, Alloway, and Pittsgrove.

Barren Land

The barren lands are mostly “altered lands” which are lands under construction and are scattered in small parcels throughout 4 percent of the Corridor and one percent of the County.

Urban

The Corridor represents 10 percent of the County’s total land area, but houses approximately 43 percent of the County’s population. In the County, the only industrial uses not in the Corridor are Mannington Mills and Anchor Glass, respectively adjacent to and in Salem City, and PSE&G’s Artificial Island in Lower Alloway Creek. Commercial and residential centers are found outside of the Corridor in Pittsgrove, Elmer, Pilesgrove, and Salem City. As previously noted, the total urban area for the County is 10 percent.

Twenty-eight percent of the Corridor is classified as urban, which can be further broken down to eleven subsets. Of these, the greatest portion, 34 percent, is medium-density residential.

Salem County Urban Uses

- **Industrial**—uses are limited to major manufacturing and warehousing firms.

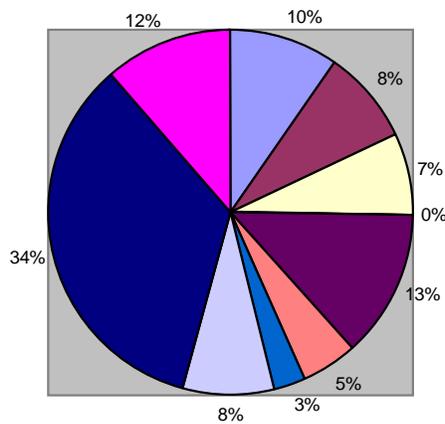
- **Commercial/Services**—includes most of the traditional retail and service uses that are located along the main streets of the municipalities, such as grocery stores, pharmacies, restaurants, etc. Eight percent is commercial (541.7 acres of the Corridor).
- **Communications/Utilities/Transportation**— The presence of major transportation routes, utilities (sewer treatment plants, power lines), and communications facilities often associated with urban uses. The Corridor contains 472 acres (7%) in this category.
- **Military Reservations**—in Oldmans, on slightly less than one acre.

- **Mixed Use/Other Urban**—together, contain 851 acres, or nearly 13 percent of the Corridor's land.

- **Recreational Land/ Athletic Fields (Schools)**—315 acres (five percent).

- **Residential, High Density, Multiple Dwelling**—comprise 195 acres (three percent).

- **Residential, Low Density, Single Unit**—518 acres (eight percent).



Land Use by Acreage & Municipality

Sum of ACRES					
MUNICIPALITY	GENERAL LAND USE - 1995	DETAILED LAND USE - 1995	Total	Percent	
Alloway Township	AGRICULTURE	CONFINED FEEDING OPERATIONS	5.77		
		CROPLAND AND PASTURELAND	8272.94		
		ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREAS	364.31		
		OTHER AGRICULTURE	280.21		
	AGRICULTURE Total			8923.22	41.28%
	BARREN LAND	ALTERED LANDS	58.30		
		EXTRACTIVE MINING	89.92		
		TRANSITIONAL AREAS	4.43		
		UNDIFFERENTIATED BARREN LANDS	5.51		
	BARREN LAND Total			158.15	0.73%
	FOREST	CONIFEROUS BRUSH/SHRUBLAND	363.96		
		CONIFEROUS FOREST (>50% CROWN CLOSURE)	511.42		
		CONIFEROUS FOREST (10-50% CROWN CLOSURE)	30.15		
		DECIDUOUS BRUSH/SHRUBLAND	66.18		
		DECIDUOUS FOREST (>50% CROWN CLOSURE)	2742.05		
DECIDUOUS FOREST (10-50% CROWN CLOSURE)		695.40			
MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND		346.77			
MIXED FOREST (>50% CONIFEROUS WITH >50% CROWN CLOSURE)		655.30			
MIXED FOREST (>50% CONIFEROUS WITH 10%-50% CROWN CLOSURE)		12.79			
MIXED FOREST (>50% DECIDUOUS WITH >50% CROWN CLOSURE)		486.68			
MIXED FOREST (>50% DECIDUOUS WITH 10-50% CROWN CLOSURE)		169.38			
OLD FIELD (< 25% BRUSH COVERED)	169.44				
PLANTATION	7.24				
FOREST Total			6256.76	28.94%	
URBAN	ATHLETIC FIELDS (SCHOOLS)	7.05			
	COMMERCIAL/SERVICES	48.36			
	INDUSTRIAL	4.84			
	OTHER URBAN OR BUILT-UP LAND	58.92			
	RECREATIONAL LAND	179.06			
	RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	1.64			

MUNICIPALITY	GENERAL LAND USE - 1995	DETAILED LAND USE - 1995	Total	Percent
		RESIDENTIAL, RURAL, SINGLE UNIT	936.89	
		RESIDENTIAL, SINGLE UNIT, LOW DENSITY	215.67	
		RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	45.30	
		TRANSPORTATION/COMMUNICATIONS/UTILITIES	258.09	
	URBAN Total		1755.82	8.12%
	WATER	ARTIFICIAL LAKES	238.97	
		NATURAL LAKES	6.30	
		TIDAL RIVERS, INLAND BAYS, AND OTHER TIDAL WATERS	45.70	
	WATER Total		290.97	1.35%
	WETLANDS	AGRICULTURAL WETLANDS (MODIFIED)	487.51	
		ATLANTIC WHITE CEDAR SWAMP	3.29	
		CONIFEROUS SCRUB/SHRUB WETLANDS	17.50	
		CONIFEROUS WOODED WETLANDS	274.28	
		DECIDUOUS SCRUB/SHRUB WETLANDS	148.42	
		DECIDUOUS WOODED WETLANDS	2343.76	
		DISTURBED WETLANDS (MODIFIED)	30.06	
		FORMER AGRICULTURAL WETLAND (BECOMING SHRUBBY, NOT BUILT-UP)	42.40	
		FRESHWATER TIDAL MARSHES	55.98	
		HERBACEOUS WETLANDS	138.31	
		MANAGED WETLAND IN BUILT-UP MAINTAINED REC AREA	3.26	
		MANAGED WETLAND IN MAINTAINED LAWN GREENSPACE	11.58	
		MIXED FORESTED WETLANDS (CONIFEROUS DOM.)	138.35	
		MIXED FORESTED WETLANDS (DECIDUOUS DOM.)	448.67	
		MIXED SCRUB/SHRUB WETLANDS (CONIFEROUS DOM.)	5.28	
		MIXED SCRUB/SHRUB WETLANDS (DECIDUOUS DOM.)	42.57	
		WETLAND RIGHTS-OF-WAY (MODIFIED)	40.17	
	WETLANDS Total		4231.38	19.57%
Alloway Township Total			21616.31	100.00%
Carneys Point Twp.	AGRICULTURE	CROPLAND AND PASTURELAND	3364.16	
		ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREAS	13.92	
		OTHER AGRICULTURE	86.51	
	AGRICULTURE Total		3464.60	30.40%
	BARREN LAND	ALTERED LANDS	157.18	

MUNICIPALITY	GENERAL LAND USE - 1995	DETAILED LAND USE - 1995	Total	Percent
		EXTRACTIVE MINING	32.21	
		TRANSITIONAL AREAS	16.05	
		UNDIFFERENTIATED BARREN LANDS	0.57	
	BARREN LAND Total		206.00	1.81%
	FOREST	CONIFEROUS BRUSH/SHRUBLAND	15.21	
		CONIFEROUS FOREST (>50% CROWN CLOSURE)	20.27	
		CONIFEROUS FOREST (10-50% CROWN CLOSURE)	4.19	
		DECIDUOUS BRUSH/SHRUBLAND	239.50	
		DECIDUOUS FOREST (>50% CROWN CLOSURE)	737.15	
		DECIDUOUS FOREST (10-50% CROWN CLOSURE)	95.60	
		MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND	37.71	
		MIXED FOREST (>50% CONIFEROUS WITH >50% CROWN CLOSURE)	30.09	
		MIXED FOREST (>50% DECIDUOUS WITH >50% CROWN CLOSURE)	18.33	
		MIXED FOREST (>50% DECIDUOUS WITH 10-50% CROWN CLOSURE)	2.48	
		OLD FIELD (< 25% BRUSH COVERED)	351.20	
	FOREST Total		1551.73	13.62%
	URBAN	ATHLETIC FIELDS (SCHOOLS)	45.28	
		COMMERCIAL/SERVICES	182.80	
		INDUSTRIAL	141.71	
		MIXED URBAN OR BUILT-UP LAND	5.02	
		OTHER URBAN OR BUILT-UP LAND	411.80	
		RECREATIONAL LAND	100.07	
		RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	98.85	
		RESIDENTIAL, RURAL, SINGLE UNIT	397.55	
		RESIDENTIAL, SINGLE UNIT, LOW DENSITY	207.25	
		RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	536.00	
		TRANSPORTATION/COMMUNICATIONS/UTILITIES	305.53	
	URBAN Total		2431.86	21.34%
	WATER	ARTIFICIAL LAKES	285.86	
		NATURAL LAKES	1.89	
		STREAMS AND CANALS	1.55	
		TIDAL RIVERS, INLAND BAYS, AND OTHER TIDAL WATERS	222.28	
	WATER Total		511.58	4.49%

MUNICIPALITY	GENERAL LAND USE - 1995	DETAILED LAND USE - 1995	Total	Percent
	WETLANDS	AGRICULTURAL WETLANDS (MODIFIED) CONIFEROUS WOODED WETLANDS DECIDUOUS SCRUB/SHRUB WETLANDS DECIDUOUS WOODED WETLANDS DISTURBED WETLANDS (MODIFIED) FORMER AGRICULTURAL WETLAND (BECOMING SHRUBBY, NOT BUILT-UP) FRESHWATER TIDAL MARSHES HERBACEOUS WETLANDS MANAGED WETLAND IN BUILT-UP MAINTAINED REC AREA MANAGED WETLAND IN MAINTAINED LAWN GREENSPACE MIXED FORESTED WETLANDS (CONIFEROUS DOM.) MIXED FORESTED WETLANDS (DECIDUOUS DOM.) MIXED SCRUB/SHRUB WETLANDS (CONIFEROUS DOM.) WETLAND RIGHTS-OF-WAY (MODIFIED)	233.42 8.33 407.03 1760.75 39.03 14.45 385.45 312.33 3.52 21.06 18.11 22.28 0.82 2.56	
	WETLANDS Total		3229.13	28.34%
Carneys Point Twp. Total			11394.90	100.00%
Elmer Boro	AGRICULTURE	CROPLAND AND PASTURELAND	127.19	
		OTHER AGRICULTURE	1.29	
	AGRICULTURE Total		128.47	21.96%
	FOREST	CONIFEROUS BRUSH/SHRUBLAND	1.43	
		DECIDUOUS FOREST (>50% CROWN CLOSURE)	8.04	
		DECIDUOUS FOREST (10-50% CROWN CLOSURE)	2.52	
		OLD FIELD (< 25% BRUSH COVERED)	2.29	
	FOREST Total		14.29	2.44%
	URBAN	COMMERCIAL/SERVICES	48.01	
		INDUSTRIAL	18.37	
MIXED RESIDENTIAL		2.12		
OTHER URBAN OR BUILT-UP LAND		51.75		
RECREATIONAL LAND		11.54		
RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING		0.96		
RESIDENTIAL, RURAL, SINGLE UNIT		29.30		
RESIDENTIAL, SINGLE UNIT, LOW DENSITY		52.63		
RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	135.89			

MUNICIPALITY	GENERAL LAND USE - 1995	DETAILED LAND USE - 1995	Total	Percent
		TRANSPORTATION/COMMUNICATIONS/UTILITIES	4.65	
	URBAN Total		355.22	60.72%
	WATER	ARTIFICIAL LAKES	16.12	
	WATER Total		16.12	2.76%
	WETLANDS	AGRICULTURAL WETLANDS (MODIFIED)	17.19	
		DECIDUOUS SCRUB/SHRUB WETLANDS	2.60	
		DECIDUOUS WOODED WETLANDS	25.64	
		DISTURBED WETLANDS (MODIFIED)	4.33	
		FORMER AGRICULTURAL WETLAND (BECOMING SHRUBBY, NOT BUILT-UP)	4.95	
		HERBACEOUS WETLANDS	1.74	
		MANAGED WETLAND IN MAINTAINED LAWN GREENSPACE	13.46	
		MIXED FORESTED WETLANDS (CONIFEROUS DOM.)	1.00	
	WETLANDS Total		70.90	12.12%
Elmer Boro Total			584.99	100.00%
Elsinboro Township	AGRICULTURE	CROPLAND AND PASTURELAND	1753.96	
		OTHER AGRICULTURE	22.07	
	AGRICULTURE Total		1776.02	20.85%
	BARREN LAND	ALTERED LANDS	1.84	
	BARREN LAND Total		1.84	0.02%
	FOREST	CONIFEROUS BRUSH/SHRUBLAND	1.94	
		DECIDUOUS BRUSH/SHRUBLAND	11.86	
		DECIDUOUS FOREST (>50% CROWN CLOSURE)	21.35	
		DECIDUOUS FOREST (10-50% CROWN CLOSURE)	12.30	
		MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND	9.71	
		OLD FIELD (< 25% BRUSH COVERED)	31.48	
	FOREST Total		88.65	1.04%
	URBAN	ATHLETIC FIELDS (SCHOOLS)	3.40	
		COMMERCIAL/SERVICES	9.60	
		INDUSTRIAL	7.39	
		OTHER URBAN OR BUILT-UP LAND	18.88	
		RECREATIONAL LAND	57.40	
		RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	1.77	
		RESIDENTIAL, RURAL, SINGLE UNIT	176.48	

MUNICIPALITY	GENERAL LAND USE - 1995	DETAILED LAND USE - 1995	Total	Percent	
		RESIDENTIAL, SINGLE UNIT, LOW DENSITY	63.75		
		RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	119.63		
		TRANSPORTATION/COMMUNICATIONS/UTILITIES	19.53		
		URBAN Total	477.84	5.61%	
		WATER	ARTIFICIAL LAKES	13.26	
			STREAMS AND CANALS	0.22	
			TIDAL RIVERS, INLAND BAYS, AND OTHER TIDAL WATERS	874.52	
		WATER Total	888.00	10.42%	
		WETLANDS	AGRICULTURAL WETLANDS (MODIFIED)	1066.87	
			DECIDUOUS SCRUB/SHRUB WETLANDS	89.55	
			DECIDUOUS WOODED WETLANDS	623.55	
			DISTURBED WETLANDS (MODIFIED)	10.54	
			FORMER AGRICULTURAL WETLAND (BECOMING SHRUBBY, NOT BUILT-UP)	12.09	
			FRESHWATER TIDAL MARSHES	2670.88	
			HERBACEOUS WETLANDS	636.96	
			MANAGED WETLAND IN BUILT-UP MAINTAINED REC AREA	17.38	
			MANAGED WETLAND IN MAINTAINED LAWN GREENSPACE	32.19	
		MIXED FORESTED WETLANDS (CONIFEROUS DOM.)	9.87		
		MIXED SCRUB/SHRUB WETLANDS (CONIFEROUS DOM.)	1.56		
		MIXED SCRUB/SHRUB WETLANDS (DECIDUOUS DOM.)	19.96		
		SALINE MARSHES	51.42		
		WETLAND RIGHTS-OF-WAY (MODIFIED)	43.55		
	WETLANDS Total	5286.37	62.06%		
Elsinboro Township Total			8518.71	100.00%	
Lower Alloways Creek Township	AGRICULTURE	CONFINED FEEDING OPERATIONS	3.04		
		CROPLAND AND PASTURELAND	4586.17		
		ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREAS	14.89		
		OTHER AGRICULTURE	71.81		
	AGRICULTURE Total	4675.90	15.28%		
BARREN LAND	ALTERED LANDS	10.41			
	EXTRACTIVE MINING	22.90			
	UNDIFFERENTIATED BARREN LANDS	10.98			

MUNICIPALITY	GENERAL LAND USE - 1995	DETAILED LAND USE - 1995	Total	Percent
	BARREN LAND Total		44.29	0.14%
	FOREST	CONIFEROUS BRUSH/SHRUBLAND CONIFEROUS FOREST (>50% CROWN CLOSURE) CONIFEROUS FOREST (10-50% CROWN CLOSURE) DECIDUOUS BRUSH/SHRUBLAND DECIDUOUS FOREST (>50% CROWN CLOSURE) DECIDUOUS FOREST (10-50% CROWN CLOSURE) MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND MIXED FOREST (>50% CONIFEROUS WITH >50% CROWN CLOSURE) MIXED FOREST (>50% CONIFEROUS WITH 10%-50% CROWN CLOSURE) MIXED FOREST (>50% DECIDUOUS WITH >50% CROWN CLOSURE) MIXED FOREST (>50% DECIDUOUS WITH 10-50% CROWN CLOSURE) OLD FIELD (< 25% BRUSH COVERED)	192.43 156.00 58.67 85.16 829.13 254.52 435.55 40.61 12.83 53.34 6.10 247.42	
	FOREST Total		2371.75	7.75%
	URBAN	ATHLETIC FIELDS (SCHOOLS) COMMERCIAL/SERVICES INDUSTRIAL OTHER URBAN OR BUILT-UP LAND RECREATIONAL LAND RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING RESIDENTIAL, RURAL, SINGLE UNIT RESIDENTIAL, SINGLE UNIT, LOW DENSITY RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY TRANSPORTATION/COMMUNICATIONS/UTILITIES	15.53 20.21 242.43 86.69 64.32 6.97 535.77 95.45 45.53 109.84	
	URBAN Total		1222.74	4.00%
	WATER	ARTIFICIAL LAKES NATURAL LAKES OPEN TIDAL BAYS TIDAL RIVERS, INLAND BAYS, AND OTHER TIDAL WATERS	232.09 2.45 24.88 2220.48	
	WATER Total		2479.91	8.10%
	WETLANDS	AGRICULTURAL WETLANDS (MODIFIED) ATLANTIC WHITE CEDAR SWAMP CONIFEROUS SCRUB/SHRUB WETLANDS	2061.95 6.72 15.72	

MUNICIPALITY	GENERAL LAND USE - 1995	DETAILED LAND USE - 1995	Total	Percent
		CONIFEROUS WOODED WETLANDS	183.96	
		DECIDUOUS SCRUB/SHRUB WETLANDS	570.19	
		DECIDUOUS WOODED WETLANDS	1248.46	
		DISTURBED WETLANDS (MODIFIED)	135.71	
		FORMER AGRICULTURAL WETLAND (BECOMING SHRUBBY, NOT BUILT-UP)	63.55	
		FRESHWATER TIDAL MARSHES	880.50	
		HERBACEOUS WETLANDS	1235.04	
		MANAGED WETLAND IN BUILT-UP MAINTAINED REC AREA	17.90	
		MANAGED WETLAND IN MAINTAINED LAWN GREENSPACE	45.95	
		MIXED FORESTED WETLANDS (CONIFEROUS DOM.)	288.83	
		MIXED FORESTED WETLANDS (DECIDUOUS DOM.)	348.78	
		MIXED SCRUB/SHRUB WETLANDS (CONIFEROUS DOM.)	45.04	
		MIXED SCRUB/SHRUB WETLANDS (DECIDUOUS DOM.)	110.42	
		SALINE MARSHES	12345.30	
		WETLAND RIGHTS-OF-WAY (MODIFIED)	204.37	
	WETLANDS Total		19808.37	64.73%
Lower Alloways Creek Township	Total		30602.95	100.00%
Mannington Township	AGRICULTURE	CONFINED FEEDING OPERATIONS	26.49	
		CROPLAND AND PASTURELAND	12998.79	
		ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREAS	25.17	
		OTHER AGRICULTURE	276.67	
	AGRICULTURE Total		13327.12	54.91%
	BARREN LAND	ALTERED LANDS	27.11	
		EXTRACTIVE MINING	33.30	
	BARREN LAND Total		60.41	0.25%
	FOREST	CONIFEROUS BRUSH/SHRUBLAND	68.46	
		CONIFEROUS FOREST (>50% CROWN CLOSURE)	12.87	
		CONIFEROUS FOREST (10-50% CROWN CLOSURE)	7.54	
		DECIDUOUS BRUSH/SHRUBLAND	155.46	
		DECIDUOUS FOREST (>50% CROWN CLOSURE)	1354.76	
		DECIDUOUS FOREST (10-50% CROWN CLOSURE)	114.73	
		MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND	228.76	
		MIXED FOREST (>50% CONIFEROUS WITH >50% CROWN CLOSURE)	44.71	

MUNICIPALITY	GENERAL LAND USE - 1995	DETAILED LAND USE - 1995	Total	Percent
		MIXED FOREST (>50% CONIFEROUS WITH 10%-50% CROWN CLOSURE)	4.86	
		MIXED FOREST (>50% DECIDUOUS WITH >50% CROWN CLOSURE)	24.17	
		MIXED FOREST (>50% DECIDUOUS WITH 10-50% CROWN CLOSURE)	2.68	
		OLD FIELD (< 25% BRUSH COVERED)	200.79	
		PLANTATION	14.41	
	FOREST Total		2234.21	9.21%
	URBAN	ATHLETIC FIELDS (SCHOOLS)	6.65	
		COMMERCIAL/SERVICES	104.46	
		INDUSTRIAL	64.06	
		OTHER URBAN OR BUILT-UP LAND	106.84	
		RECREATIONAL LAND	30.24	
		RESIDENTIAL, RURAL, SINGLE UNIT	570.48	
		RESIDENTIAL, SINGLE UNIT, LOW DENSITY	97.98	
		RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	17.75	
		TRANSPORTATION/COMMUNICATIONS/UTILITIES	67.19	
	URBAN Total		1065.65	4.39%
	WATER	ARTIFICIAL LAKES	140.68	
		STREAMS AND CANALS	2.04	
		TIDAL RIVERS, INLAND BAYS, AND OTHER TIDAL WATERS	3095.45	
	WATER Total		3238.17	13.34%
	WETLANDS	AGRICULTURAL WETLANDS (MODIFIED)	506.94	
		CONIFEROUS SCRUB/SHRUB WETLANDS	1.36	
		CONIFEROUS WOODED WETLANDS	3.74	
		DECIDUOUS SCRUB/SHRUB WETLANDS	658.99	
		DECIDUOUS WOODED WETLANDS	1577.52	
		DISTURBED WETLANDS (MODIFIED)	6.91	
		FORMER AGRICULTURAL WETLAND (BECOMING SHRUBBY, NOT BUILT-UP)	6.38	
		FRESHWATER TIDAL MARSHES	1339.02	
		HERBACEOUS WETLANDS	185.41	
		MANAGED WETLAND IN MAINTAINED LAWN GREENSPACE	8.58	
		MIXED FORESTED WETLANDS (CONIFEROUS DOM.)	6.56	
		MIXED FORESTED WETLANDS (DECIDUOUS DOM.)	20.86	
		MIXED SCRUB/SHRUB WETLANDS (DECIDUOUS DOM.)	10.13	

MUNICIPALITY	GENERAL LAND USE - 1995	DETAILED LAND USE - 1995	Total	Percent
		WETLAND RIGHTS-OF-WAY (MODIFIED)	11.92	
	WETLANDS Total		4344.33	17.90%
Mannington Township Total			24269.89	100.00%
Oldmans Township	AGRICULTURE	CROPLAND AND PASTURELAND	4404.20	
		ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREAS	114.79	
		OTHER AGRICULTURE	161.42	
	AGRICULTURE Total		4680.41	36.41%
	BARREN LAND	ALTERED LANDS	218.80	
		EXTRACTIVE MINING	13.66	
		TRANSITIONAL AREAS	4.48	
		UNDIFFERENTIATED BARREN LANDS	2.15	
	BARREN LAND Total		239.09	1.86%
	FOREST	CONIFEROUS BRUSH/SHRUBLAND	16.79	
		CONIFEROUS FOREST (>50% CROWN CLOSURE)	33.65	
		CONIFEROUS FOREST (10-50% CROWN CLOSURE)	2.45	
		DECIDUOUS BRUSH/SHRUBLAND	116.69	
		DECIDUOUS FOREST (>50% CROWN CLOSURE)	520.33	
DECIDUOUS FOREST (10-50% CROWN CLOSURE)		76.23		
MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND		93.64		
MIXED FOREST (>50% CONIFEROUS WITH >50% CROWN CLOSURE)		14.65		
MIXED FOREST (>50% CONIFEROUS WITH 10%-50% CROWN CLOSURE)		5.13		
MIXED FOREST (>50% DECIDUOUS WITH >50% CROWN CLOSURE)		17.55		
OLD FIELD (< 25% BRUSH COVERED)		263.94		
PLANTATION	4.01			
FOREST Total		1165.05	9.06%	
URBAN	ATHLETIC FIELDS (SCHOOLS)	3.34		
	COMMERCIAL/SERVICES	29.97		
	INDUSTRIAL	88.21		
	MILITARY RESERVATIONS	33.35		
	OTHER URBAN OR BUILT-UP LAND	226.03		
	RECREATIONAL LAND	31.59		
	RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	1.31		
	RESIDENTIAL, RURAL, SINGLE UNIT	420.33		

MUNICIPALITY	GENERAL LAND USE - 1995	DETAILED LAND USE - 1995	Total	Percent	
		RESIDENTIAL, SINGLE UNIT, LOW DENSITY	117.54		
		RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	90.21		
		TRANSPORTATION/COMMUNICATIONS/UTILITIES	154.82		
		URBAN Total	1196.70	9.31%	
		WATER	ARTIFICIAL LAKES	149.55	
			STREAMS AND CANALS	4.73	
			TIDAL RIVERS, INLAND BAYS, AND OTHER TIDAL WATERS	218.69	
		WATER Total	372.98	2.90%	
		WETLANDS	AGRICULTURAL WETLANDS (MODIFIED)	567.49	
			CONIFEROUS WOODED WETLANDS	3.96	
			DECIDUOUS SCRUB/SHRUB WETLANDS	307.78	
			DECIDUOUS WOODED WETLANDS	2052.94	
			DISTURBED WETLANDS (MODIFIED)	967.01	
			FORMER AGRICULTURAL WETLAND (BECOMING SHRUBBY, NOT BUILT-UP)	30.19	
		FRESHWATER TIDAL MARSHES	442.18		
		HERBACEOUS WETLANDS	589.91		
		MANAGED WETLAND IN BUILT-UP MAINTAINED REC AREA	2.45		
		MANAGED WETLAND IN MAINTAINED LAWN GREENSPACE	5.22		
		MIXED FORESTED WETLANDS (CONIFEROUS DOM.)	34.55		
		MIXED FORESTED WETLANDS (DECIDUOUS DOM.)	175.05		
		WETLAND RIGHTS-OF-WAY (MODIFIED)	21.39		
	WETLANDS Total	5200.12	40.45%		
Oldmans Township Total			12854.35	100.00%	
Penns Grove Boro	AGRICULTURE	CROPLAND AND PASTURELAND	2.63		
	AGRICULTURE Total		2.63	0.46%	
	FOREST	DECIDUOUS BRUSH/SHRUBLAND		1.49	
		DECIDUOUS FOREST (>50% CROWN CLOSURE)		2.28	
		DECIDUOUS FOREST (10-50% CROWN CLOSURE)		13.20	
		MIXED FOREST (>50% DECIDUOUS WITH >50% CROWN CLOSURE)		1.58	
		OLD FIELD (< 25% BRUSH COVERED)		2.32	
FOREST Total		20.87	3.66%		
URBAN	ATHLETIC FIELDS (SCHOOLS)		17.26		
	COMMERCIAL/SERVICES		92.29		

MUNICIPALITY	GENERAL LAND USE - 1995	DETAILED LAND USE - 1995	Total	Percent
		INDUSTRIAL	3.36	
		MIXED URBAN OR BUILT-UP LAND	5.47	
		OTHER URBAN OR BUILT-UP LAND	48.96	
		RECREATIONAL LAND	4.63	
		RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	31.39	
		RESIDENTIAL, RURAL, SINGLE UNIT	4.07	
		RESIDENTIAL, SINGLE UNIT, LOW DENSITY	5.11	
		RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	317.82	
		TRANSPORTATION/COMMUNICATIONS/UTILITIES	3.52	
	URBAN Total		533.86	93.56%
	WATER	TIDAL RIVERS, INLAND BAYS, AND OTHER TIDAL WATERS	0.34	
	WATER Total		0.34	0.06%
	WETLANDS	DECIDUOUS SCRUB/SHRUB WETLANDS	1.06	
		DECIDUOUS WOODED WETLANDS	4.08	
		DISTURBED WETLANDS (MODIFIED)	3.23	
		HERBACEOUS WETLANDS	1.62	
		MANAGED WETLAND IN BUILT-UP MAINTAINED REC AREA	1.53	
		MANAGED WETLAND IN MAINTAINED LAWN GREENSPACE	1.38	
	WETLANDS Total		12.89	2.26%
Penns Grove Boro Total			570.59	100.00%
Pennsville Township	AGRICULTURE	CROPLAND AND PASTURELAND	1880.31	
		ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREAS	10.42	
		OTHER AGRICULTURE	78.34	
	AGRICULTURE Total		1969.07	12.38%
	BARREN LAND	ALTERED LANDS	173.35	
		EXTRACTIVE MINING	1.29	
		TRANSITIONAL AREAS	27.46	
		UNDIFFERENTIATED BARREN LANDS	2.48	
	BARREN LAND Total		204.58	1.29%
	FOREST	CONIFEROUS BRUSH/SHRUBLAND	46.22	
CONIFEROUS FOREST (>50% CROWN CLOSURE)		5.06		
CONIFEROUS FOREST (10-50% CROWN CLOSURE)		5.58		
DECIDUOUS BRUSH/SHRUBLAND		195.78		

MUNICIPALITY	GENERAL LAND USE - 1995	DETAILED LAND USE - 1995	Total	Percent
		DECIDUOUS FOREST (>50% CROWN CLOSURE)	618.07	
		DECIDUOUS FOREST (10-50% CROWN CLOSURE)	73.53	
		MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND	128.16	
		MIXED FOREST (>50% CONIFEROUS WITH >50% CROWN CLOSURE)	4.55	
		MIXED FOREST (>50% CONIFEROUS WITH 10%-50% CROWN CLOSURE)	0.98	
		MIXED FOREST (>50% DECIDUOUS WITH >50% CROWN CLOSURE)	0.68	
		OLD FIELD (< 25% BRUSH COVERED)	231.97	
	FOREST Total		1310.58	8.24%
	URBAN	ATHLETIC FIELDS (SCHOOLS)	53.86	
		COMMERCIAL/SERVICES	267.48	
		INDUSTRIAL	428.15	
		MIXED URBAN OR BUILT-UP LAND	1.30	
		OTHER URBAN OR BUILT-UP LAND	300.47	
		RECREATIONAL LAND	176.02	
		RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	89.00	
		RESIDENTIAL, RURAL, SINGLE UNIT	307.76	
		RESIDENTIAL, SINGLE UNIT, LOW DENSITY	291.42	
		RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	1341.39	
		TRANSPORTATION/COMMUNICATIONS/UTILITIES	140.69	
	URBAN Total		3397.52	21.36%
	WATER	ARTIFICIAL LAKES	167.74	
		NATURAL LAKES	0.96	
		STREAMS AND CANALS	10.03	
		TIDAL RIVERS, INLAND BAYS, AND OTHER TIDAL WATERS	1787.62	
	WATER Total		1966.35	12.36%
	WETLANDS	AGRICULTURAL WETLANDS (MODIFIED)	323.28	
		ATLANTIC WHITE CEDAR SWAMP	14.97	
		DECIDUOUS SCRUB/SHRUB WETLANDS	280.72	
		DECIDUOUS WOODED WETLANDS	1476.73	
		DISTURBED WETLANDS (MODIFIED)	156.95	
		FORMER AGRICULTURAL WETLAND (BECOMING SHRUBBY, NOT BUILT-UP)	2.97	
		FRESHWATER TIDAL MARSHES	3343.94	
		HERBACEOUS WETLANDS	1300.01	

MUNICIPALITY	GENERAL LAND USE - 1995	DETAILED LAND USE - 1995	Total	Percent
		MANAGED WETLAND IN BUILT-UP MAINTAINED REC AREA	3.12	
		MANAGED WETLAND IN MAINTAINED LAWN GREENSPACE	33.07	
		MIXED FORESTED WETLANDS (DECIDUOUS DOM.)	62.85	
		MIXED SCRUB/SHRUB WETLANDS (DECIDUOUS DOM.)	20.15	
		SALINE MARSHES	1.87	
		WETLAND RIGHTS-OF-WAY (MODIFIED)	40.18	
	WETLANDS Total		7060.80	44.38%
Pennsville Township Total			15908.90	100.00%
Pilesgrove Township	AGRICULTURE	CONFINED FEEDING OPERATIONS	5.73	
		CROPLAND AND PASTURELAND	14405.28	
		ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREAS	79.93	
		OTHER AGRICULTURE	525.39	
		AGRICULTURE Total	15016.34	66.99%
	BARREN LAND	EXTRACTIVE MINING	3.30	
		TRANSITIONAL AREAS	12.25	
		UNDIFFERENTIATED BARREN LANDS	1.89	
	BARREN LAND Total	17.43	0.08%	
	FOREST	CONIFEROUS BRUSH/SHRUBLAND	108.99	
		CONIFEROUS FOREST (>50% CROWN CLOSURE)	25.37	
		CONIFEROUS FOREST (10-50% CROWN CLOSURE)	16.26	
		DECIDUOUS BRUSH/SHRUBLAND	101.59	
DECIDUOUS FOREST (>50% CROWN CLOSURE)		1663.42		
DECIDUOUS FOREST (10-50% CROWN CLOSURE)		160.60		
MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND		151.26		
MIXED FOREST (>50% CONIFEROUS WITH >50% CROWN CLOSURE)		36.91		
MIXED FOREST (>50% CONIFEROUS WITH 10%-50% CROWN CLOSURE)		5.61		
MIXED FOREST (>50% DECIDUOUS WITH >50% CROWN CLOSURE)		25.52		
MIXED FOREST (>50% DECIDUOUS WITH 10-50% CROWN CLOSURE)		4.71		
OLD FIELD (< 25% BRUSH COVERED)		269.35		
PLANTATION	1.11			
FOREST Total	2570.68	11.47%		
URBAN	ATHLETIC FIELDS (SCHOOLS)	2.10		
	COMMERCIAL/SERVICES	72.91		

MUNICIPALITY	GENERAL LAND USE - 1995	DETAILED LAND USE - 1995	Total	Percent
		INDUSTRIAL	23.34	
		OTHER URBAN OR BUILT-UP LAND	231.96	
		RECREATIONAL LAND	221.01	
		RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	4.58	
		RESIDENTIAL, RURAL, SINGLE UNIT	1491.62	
		RESIDENTIAL, SINGLE UNIT, LOW DENSITY	163.31	
		RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	35.97	
		TRANSPORTATION/COMMUNICATIONS/UTILITIES	51.64	
	URBAN Total		2298.44	10.25%
	WATER	ARTIFICIAL LAKES	132.86	
		NATURAL LAKES	6.55	
		STREAMS AND CANALS	3.16	
		TIDAL RIVERS, INLAND BAYS, AND OTHER TIDAL WATERS	21.26	
	WATER Total		163.83	0.73%
	WETLANDS	AGRICULTURAL WETLANDS (MODIFIED)	439.53	
		CONIFEROUS WOODED WETLANDS	5.91	
		DECIDUOUS SCRUB/SHRUB WETLANDS	259.58	
		DECIDUOUS WOODED WETLANDS	1423.10	
		DISTURBED WETLANDS (MODIFIED)	21.11	
		FORMER AGRICULTURAL WETLAND (BECOMING SHRUBBY, NOT BUILT-UP)	17.09	
		FRESHWATER TIDAL MARSHES	32.08	
		HERBACEOUS WETLANDS	130.46	
		MANAGED WETLAND IN BUILT-UP MAINTAINED REC AREA	2.50	
		MANAGED WETLAND IN MAINTAINED LAWN GREENSPACE	3.08	
		MIXED FORESTED WETLANDS (DECIDUOUS DOM.)	10.18	
		WETLAND RIGHTS-OF-WAY (MODIFIED)	4.08	
	WETLANDS Total		2348.69	10.48%
Pittsgrove Township Total			22415.41	100.00%
Pittsgrove Township	AGRICULTURE	CONFINED FEEDING OPERATIONS	3.14	
		CROPLAND AND PASTURELAND	8374.48	
		ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREAS	33.99	
		OTHER AGRICULTURE	302.76	
	AGRICULTURE Total		8714.36	29.84%

MUNICIPALITY	GENERAL LAND USE - 1995	DETAILED LAND USE - 1995	Total	Percent
	BARREN LAND	ALTERED LANDS BEACHES EXTRACTIVE MINING TRANSITIONAL AREAS UNDIFFERENTIATED BARREN LANDS	32.56 1.54 61.86 26.09 10.44	
	BARREN LAND Total		132.49	0.45%
	FOREST	CONIFEROUS BRUSH/SHRUBLAND CONIFEROUS FOREST (>50% CROWN CLOSURE) CONIFEROUS FOREST (10-50% CROWN CLOSURE) DECIDUOUS BRUSH/SHRUBLAND DECIDUOUS FOREST (>50% CROWN CLOSURE) DECIDUOUS FOREST (10-50% CROWN CLOSURE) MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND MIXED FOREST (>50% CONIFEROUS WITH >50% CROWN CLOSURE) MIXED FOREST (>50% CONIFEROUS WITH 10%-50% CROWN CLOSURE) MIXED FOREST (>50% DECIDUOUS WITH >50% CROWN CLOSURE) MIXED FOREST (>50% DECIDUOUS WITH 10-50% CROWN CLOSURE) OLD FIELD (< 25% BRUSH COVERED) PLANTATION	196.58 1063.88 29.70 255.76 5766.11 255.93 328.00 958.16 38.38 1663.62 58.16 297.73 15.20	
	FOREST Total		10927.20	37.41%
	URBAN	ATHLETIC FIELDS (SCHOOLS) COMMERCIAL/SERVICES INDUSTRIAL MIXED URBAN OR BUILT-UP LAND OTHER URBAN OR BUILT-UP LAND RECREATIONAL LAND RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING RESIDENTIAL, RURAL, SINGLE UNIT RESIDENTIAL, SINGLE UNIT, LOW DENSITY RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY TRANSPORTATION/COMMUNICATIONS/UTILITIES	41.31 98.62 72.54 1.08 192.54 233.14 104.72 1597.66 800.26 76.74 203.83	
	URBAN Total		3422.43	11.72%
	WATER	ARTIFICIAL LAKES	456.80	

MUNICIPALITY	GENERAL LAND USE - 1995	DETAILED LAND USE - 1995	Total	Percent
		NATURAL LAKES	14.29	
		STREAMS AND CANALS	41.70	
	WATER Total		512.79	1.76%
	WETLANDS	AGRICULTURAL WETLANDS (MODIFIED)	322.54	
		ATLANTIC WHITE CEDAR SWAMP	88.00	
		CONIFEROUS SCRUB/SHRUB WETLANDS	33.87	
		CONIFEROUS WOODED WETLANDS	510.51	
		DECIDUOUS SCRUB/SHRUB WETLANDS	273.49	
		DECIDUOUS WOODED WETLANDS	2259.17	
		DISTURBED WETLANDS (MODIFIED)	31.87	
		FORMER AGRICULTURAL WETLAND (BECOMING SHRUBBY, NOT BUILT-UP)	11.22	
		HERBACEOUS WETLANDS	133.25	
		MANAGED WETLAND IN MAINTAINED LAWN GREENSPACE	12.73	
		MIXED FORESTED WETLANDS (CONIFEROUS DOM.)	865.65	
		MIXED FORESTED WETLANDS (DECIDUOUS DOM.)	865.76	
		MIXED SCRUB/SHRUB WETLANDS (CONIFEROUS DOM.)	18.91	
		MIXED SCRUB/SHRUB WETLANDS (DECIDUOUS DOM.)	39.20	
		WETLAND RIGHTS-OF-WAY (MODIFIED)	32.90	
	WETLANDS Total		5499.07	18.83%
Pittsgrove Township Total			29208.33	100.00%
Quinton Township	AGRICULTURE	CONFINED FEEDING OPERATIONS	3.02	
		CROPLAND AND PASTURELAND	4037.53	
		ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREAS	86.14	
		OTHER AGRICULTURE	195.72	
	AGRICULTURE Total		4322.41	27.77%
	BARREN LAND	ALTERED LANDS	10.19	
		EXTRACTIVE MINING	94.03	
		TRANSITIONAL AREAS	1.91	
		UNDIFFERENTIATED BARREN LANDS	8.06	
	BARREN LAND Total		114.18	0.73%
	FOREST	CONIFEROUS BRUSH/SHRUBLAND	138.30	
		CONIFEROUS FOREST (>50% CROWN CLOSURE)	429.13	
		CONIFEROUS FOREST (10-50% CROWN CLOSURE)	47.51	

MUNICIPALITY	GENERAL LAND USE - 1995	DETAILED LAND USE - 1995	Total	Percent
		DECIDUOUS BRUSH/SHRUBLAND	166.21	
		DECIDUOUS FOREST (>50% CROWN CLOSURE)	1968.63	
		DECIDUOUS FOREST (10-50% CROWN CLOSURE)	1040.96	
		MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND	421.55	
		MIXED FOREST (>50% CONIFEROUS WITH >50% CROWN CLOSURE)	502.32	
		MIXED FOREST (>50% CONIFEROUS WITH 10%-50% CROWN CLOSURE)	15.59	
		MIXED FOREST (>50% DECIDUOUS WITH >50% CROWN CLOSURE)	384.06	
		MIXED FOREST (>50% DECIDUOUS WITH 10-50% CROWN CLOSURE)	69.69	
		OLD FIELD (< 25% BRUSH COVERED)	107.12	
		PLANTATION	12.20	
		SEVERE BURNED UPLAND VEGETATION	7.51	
		FOREST Total	5310.79	34.12%
	URBAN	ATHLETIC FIELDS (SCHOOLS)	8.76	
		COMMERCIAL/SERVICES	51.18	
		INDUSTRIAL	8.25	
		MIXED URBAN OR BUILT-UP LAND	2.57	
		OTHER URBAN OR BUILT-UP LAND	83.11	
		RECREATIONAL LAND	135.70	
		RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	12.46	
		RESIDENTIAL, RURAL, SINGLE UNIT	557.99	
		RESIDENTIAL, SINGLE UNIT, LOW DENSITY	249.25	
		RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	47.77	
		TRANSPORTATION/COMMUNICATIONS/UTILITIES	208.28	
		URBAN Total	1365.32	8.77%
	WATER	ARTIFICIAL LAKES	139.31	
		NATURAL LAKES	0.97	
		TIDAL RIVERS, INLAND BAYS, AND OTHER TIDAL WATERS	238.79	
		WATER Total	379.07	2.44%
	WETLANDS	AGRICULTURAL WETLANDS (MODIFIED)	995.38	
		ATLANTIC WHITE CEDAR SWAMP	12.48	
		CONIFEROUS SCRUB/SHRUB WETLANDS	4.05	
		CONIFEROUS WOODED WETLANDS	307.09	
		DECIDUOUS SCRUB/SHRUB WETLANDS	227.35	

MUNICIPALITY	GENERAL LAND USE - 1995	DETAILED LAND USE - 1995	Total	Percent	
		DECIDUOUS WOODED WETLANDS	1086.12		
		DISTURBED WETLANDS (MODIFIED)	35.36		
		FORMER AGRICULTURAL WETLAND (BECOMING SHRUBBY, NOT BUILT-UP)	5.93		
		FRESHWATER TIDAL MARSHES	424.02		
		HERBACEOUS WETLANDS	89.67		
		MANAGED WETLAND IN BUILT-UP MAINTAINED REC AREA	70.01		
		MANAGED WETLAND IN MAINTAINED LAWN GREENSPACE	21.66		
		MIXED FORESTED WETLANDS (CONIFEROUS DOM.)	382.46		
		MIXED FORESTED WETLANDS (DECIDUOUS DOM.)	320.45		
		MIXED SCRUB/SHRUB WETLANDS (CONIFEROUS DOM.)	19.14		
		MIXED SCRUB/SHRUB WETLANDS (DECIDUOUS DOM.)	53.31		
		WETLAND RIGHTS-OF-WAY (MODIFIED)	18.73		
	WETLANDS Total		4073.22	26.17%	
Quinton Township Total			15564.98	100.00%	
Salem City	AGRICULTURE	CROPLAND AND PASTURELAND	215.60		
	AGRICULTURE Total		215.60	12.23%	
	BARREN LAND	EXTRACTIVE MINING	9.89		
	BARREN LAND Total		9.89	0.56%	
	FOREST	CONIFEROUS BRUSH/SHRUBLAND		2.68	
		DECIDUOUS BRUSH/SHRUBLAND		11.74	
		DECIDUOUS FOREST (>50% CROWN CLOSURE)		7.27	
		DECIDUOUS FOREST (10-50% CROWN CLOSURE)		6.49	
		MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND		17.21	
		OLD FIELD (< 25% BRUSH COVERED)		23.61	
	FOREST Total		68.99	3.92%	
	URBAN	ATHLETIC FIELDS (SCHOOLS)		32.74	
		COMMERCIAL/SERVICES		117.31	
INDUSTRIAL			95.55		
MIXED URBAN OR BUILT-UP LAND			15.24		
OTHER URBAN OR BUILT-UP LAND			142.78		
RECREATIONAL LAND			16.42		
RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING			90.15		
RESIDENTIAL, RURAL, SINGLE UNIT			12.65		

MUNICIPALITY	GENERAL LAND USE - 1995	DETAILED LAND USE - 1995	Total	Percent	
		RESIDENTIAL, SINGLE UNIT, LOW DENSITY	24.33		
		RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	287.23		
		TRANSPORTATION/COMMUNICATIONS/UTILITIES	37.75		
		URBAN Total	872.15	49.49%	
		WATER	ARTIFICIAL LAKES	5.73	
			TIDAL RIVERS, INLAND BAYS, AND OTHER TIDAL WATERS	166.75	
		WATER Total	172.49	9.79%	
		WETLANDS	AGRICULTURAL WETLANDS (MODIFIED)	38.28	
			DECIDUOUS SCRUB/SHRUB WETLANDS	14.81	
			DECIDUOUS WOODED WETLANDS	27.09	
			DISTURBED WETLANDS (MODIFIED)	12.86	
			FORMER AGRICULTURAL WETLAND (BECOMING SHRUBBY, NOT BUILT-UP)	1.21	
			FRESHWATER TIDAL MARSHES	147.68	
			HERBACEOUS WETLANDS	123.04	
		MANAGED WETLAND IN BUILT-UP MAINTAINED REC AREA	5.70		
		MANAGED WETLAND IN MAINTAINED LAWN GREENSPACE	29.64		
		MIXED SCRUB/SHRUB WETLANDS (CONIFEROUS DOM.)	21.98		
		MIXED SCRUB/SHRUB WETLANDS (DECIDUOUS DOM.)	0.79		
	WETLANDS Total	423.09	24.01%		
Salem City Total			1762.21	100.00%	
Upper Pittsgrove Twp.	AGRICULTURE	CONFINED FEEDING OPERATIONS	4.04		
		CROPLAND AND PASTURELAND	14453.90		
		ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREAS	1122.80		
		OTHER AGRICULTURE	418.93		
	AGRICULTURE Total	15999.66	62.01%		
	BARREN LAND	EXTRACTIVE MINING	8.06		
		TRANSITIONAL AREAS	20.35		
		UNDIFFERENTIATED BARREN LANDS	0.01		
	BARREN LAND Total	28.43	0.11%		
	FOREST	CONIFEROUS BRUSH/SHRUBLAND	24.92		
CONIFEROUS FOREST (>50% CROWN CLOSURE)		98.17			
CONIFEROUS FOREST (10-50% CROWN CLOSURE)		3.91			
DECIDUOUS BRUSH/SHRUBLAND		34.51			

MUNICIPALITY	GENERAL LAND USE - 1995	DETAILED LAND USE - 1995	Total	Percent
		DECIDUOUS FOREST (>50% CROWN CLOSURE)	1761.28	
		DECIDUOUS FOREST (10-50% CROWN CLOSURE)	125.95	
		MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND	167.18	
		MIXED FOREST (>50% CONIFEROUS WITH >50% CROWN CLOSURE)	86.33	
		MIXED FOREST (>50% CONIFEROUS WITH 10%-50% CROWN CLOSURE)	19.04	
		MIXED FOREST (>50% DECIDUOUS WITH >50% CROWN CLOSURE)	170.81	
		MIXED FOREST (>50% DECIDUOUS WITH 10-50% CROWN CLOSURE)	9.86	
		OLD FIELD (< 25% BRUSH COVERED)	90.53	
		PLANTATION	2.07	
	FOREST Total		2594.56	10.06%
	URBAN	ATHLETIC FIELDS (SCHOOLS)	10.74	
		COMMERCIAL/SERVICES	109.87	
		INDUSTRIAL	90.03	
		MIXED URBAN OR BUILT-UP LAND	1.61	
		OTHER URBAN OR BUILT-UP LAND	149.79	
		RECREATIONAL LAND	38.63	
		RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	23.17	
		RESIDENTIAL, RURAL, SINGLE UNIT	1162.49	
		RESIDENTIAL, SINGLE UNIT, LOW DENSITY	175.27	
		RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	2.14	
		TRANSPORTATION/COMMUNICATIONS/UTILITIES	57.21	
	URBAN Total		1820.95	7.06%
	WATER	ARTIFICIAL LAKES	104.69	
		NATURAL LAKES	1.35	
	WATER Total		106.04	0.41%
	WETLANDS	AGRICULTURAL WETLANDS (MODIFIED)	1706.34	
		ATLANTIC WHITE CEDAR SWAMP	22.09	
		CONIFEROUS SCRUB/SHRUB WETLANDS	17.85	
		CONIFEROUS WOODED WETLANDS	136.90	
		DECIDUOUS SCRUB/SHRUB WETLANDS	212.43	
		DECIDUOUS WOODED WETLANDS	1977.37	
		DISTURBED WETLANDS (MODIFIED)	34.52	
		FORMER AGRICULTURAL WETLAND (BECOMING SHRUBBY, NOT BUILT-UP)	16.51	

MUNICIPALITY	GENERAL LAND USE - 1995	DETAILED LAND USE - 1995	Total	Percent
		HERBACEOUS WETLANDS	150.56	
		MANAGED WETLAND IN MAINTAINED LAWN GREENSPACE	25.14	
		MIXED FORESTED WETLANDS (CONIFEROUS DOM.)	278.64	
		MIXED FORESTED WETLANDS (DECIDUOUS DOM.)	548.10	
		MIXED SCRUB/SHRUB WETLANDS (CONIFEROUS DOM.)	26.48	
		MIXED SCRUB/SHRUB WETLANDS (DECIDUOUS DOM.)	27.63	
		WETLAND RIGHTS-OF-WAY (MODIFIED)	73.03	
	WETLANDS Total		5253.59	20.36%
Upper Pittsgrove Twp. Total			25803.24	100.00%
Woodstown Boro	AGRICULTURE	CROPLAND AND PASTURELAND	266.65	
		OTHER AGRICULTURE	4.46	
	AGRICULTURE Total		271.11	26.21%
	FOREST	CONIFEROUS BRUSH/SHRUBLAND	1.64	
		DECIDUOUS FOREST (>50% CROWN CLOSURE)	25.63	
		DECIDUOUS FOREST (10-50% CROWN CLOSURE)	13.61	
		OLD FIELD (< 25% BRUSH COVERED)	0.21	
	FOREST Total		41.08	3.97%
	URBAN	ATHLETIC FIELDS (SCHOOLS)	30.76	
		COMMERCIAL/SERVICES	56.63	
		INDUSTRIAL	38.41	
		MILITARY RESERVATIONS	4.16	
		OTHER URBAN OR BUILT-UP LAND	71.92	
RECREATIONAL LAND		5.92		
RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING		11.41		
RESIDENTIAL, RURAL, SINGLE UNIT		57.38		
RESIDENTIAL, SINGLE UNIT, LOW DENSITY		60.23		
RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY		257.21		
TRANSPORTATION/COMMUNICATIONS/UTILITIES	7.31			
URBAN Total		601.32	58.14%	
WATER	ARTIFICIAL LAKES	21.75		
	STREAMS AND CANALS	1.24		
WATER Total		22.98	2.22%	
WETLANDS		AGRICULTURAL WETLANDS (MODIFIED)	11.23	

MUNICIPALITY	GENERAL LAND USE - 1995	DETAILED LAND USE - 1995	Total	Percent
		DECIDUOUS SCRUB/SHRUB WETLANDS	5.87	
		DECIDUOUS WOODED WETLANDS	69.73	
		HERBACEOUS WETLANDS	6.58	
		MANAGED WETLAND IN MAINTAINED LAWN GREENSPACE	4.41	
	WETLANDS Total		97.82	9.46%
Woodstown Boro Total			1034.32	100.00%
Salem County Grand Total			222110.06	100.00%

Salem County Public Lands			
Sum of ACRES			
MUN	OPEN SPACE	Total	%
Alloway	2004(A) Direct Easement Round	260.345	6.8
	2005(A) Direct Easement Round	78.435	2.0
	Church / Charity	56.255	1.5
	County	280.127	7.3
	Farmland	1718.733	44.7
	Municipal	195.661	5.1
	School	101.357	2.6
	State	1150.371	29.9
Alloway Total		3841.284	100.0
Carneys Point	Cemetery	0.176	0.0
	Church / Charity	68.605	6.5
	County	171.825	16.4
	Federal	204.681	19.5
	Municipal	202.26	19.3
	Other	134.464	12.8
	School	82.268	7.8
	State	186.276	17.7
Carneys Point Total		1050.555	100.0
Elmer	Church / Charity	5.381	7.9
	County	0.174	0.3
	Federal	3.542	5.2
	Municipal	16.907	24.8
	Other	16.096	23.6
	School	10.069	14.7
	State	16.141	23.6
Elmer Total		68.31	100.0
Elsinboro	2004(A) Direct Easement Round	79.343	4.4
	Cemetery	5.641	0.3
	Church / Charity	0.308	0.0
	Farmland	942.95	51.8
	Farmland - Pending	0.128	0.0
	Municipal	12.998	0.7
	Other	2.897	0.2
	School	7.388	0.4
	State	770.383	42.3
Elsinboro Total		1822.036	100.0
Lower Alloways Creek	2004(A) Direct Easement Round	160.316	1.4
	Cemetery	4.401	0.0
	Church / Charity	37.248	0.3
	County	3.992	0.0
	Farmland	1116.772	9.5
	Farmland - Pending	36.415	0.3
	Federal	845.252	7.2

	Municipal	645.529	5.5
	Other	0.255	0.0
	School	15.059	0.1
	State	8856.774	75.6
Lower Alloways Creek Total		11722.013	100.0
Mannington	2004(A) Direct Easement Round	707.868	18.0
	2005(A) Direct Easement Round	104.334	2.7
	Cemetery	8.682	0.2
	Church / Charity	20.4	0.5
	County	6.002	0.2
	Farmland	1662.646	42.3
	Farmland - Pending	148.245	3.8
	Municipal	35.23	0.9
	Other	0.888	0.0
	School	57.357	1.5
	State	1175.449	29.9
Mannington Total		3927.101	100.0
Oldmans	2004(A) Direct Easement Round	108.945	3.8
	Cemetery	4.686	0.2
	Church / Charity	7.206	0.3
	Farmland	67.737	2.4
	Federal	2084.205	73.0
	Municipal	162.955	5.7
	Other	306.102	10.7
	School	35.052	1.2
		State	79.662
Oldmans Total		2856.55	100.0
Penns Grove	Cemetery	9.32	9.7
	Church / Charity	12.008	12.5
	County	1.337	1.4
	Federal	0.408	0.4
	Municipal	39.834	41.4
	Other	7.577	7.9
	School	25.742	26.8
Penns Grove Total		96.226	100.0
Pennsville	Cemetery	61.041	1.2
	Church / Charity	69.91	1.4
	County	1.213	0.0
	Federal	4146.75	82.8
	Municipal	428.732	8.6
	Other	12.145	0.2
	School	126.535	2.5
		State	164.684
Pennsville Total		5011.01	100.0
Pilesgrove	2004(A) Direct Easement Round	471.954	14.4
	Cemetery	58.745	1.8
	Church / Charity	15.082	0.5

	County	116.821	3.6
	Farmland	2064.111	62.8
	Municipal	122.361	3.7
	School	25.882	0.8
	State	413.901	12.6
Pilesgrove Total		3288.857	100.0
Pittsgrove	2004(A) Direct Easement Round	136.876	2.3
	Cemetery	27.301	0.4
	Church / Charity	80.759	1.3
	Farmland	1469.877	24.2
	Farmland - Pending	31.439	0.5
	Federal	0.341	0.0
	Municipal	269.383	4.4
	Other	1103.023	18.2
	School	138.1	2.3
	State	2815.468	46.4
Pittsgrove Total		6072.567	100.0
Quinton	2004(A) Direct Easement Round	378.454	16.4
	2005(A) Direct Easement Round	191.4	8.3
	Cemetery	0.869	0.0
	Church / Charity	162.262	7.0
	County	9.537	0.4
	Farmland	1305.051	56.6
	Municipal	77.216	3.4
	Other	150.985	6.6
	School	15.404	0.7
	State	13.463	0.6
	Quinton Total		2304.641
Salem City	Cemetery	44.663	9.2
	Church / Charity	33.585	6.9
	County	11.663	2.4
	Federal	0.533	0.1
	Municipal	253.269	52.1
	Other	29.124	6.0
	School	113.512	23.3
Salem City Total		486.349	100.0
Upper Pittsgrove	2004(A) Direct Easement Round	411.205	6.4
	2005(A) Direct Easement Round	118.772	1.8
	Cemetery	29.666	0.5
	Church / Charity	54.005	0.8
	County	5.981	0.1
	Farmland	5144.173	79.9
	Farmland - Pending	378.495	5.9
	Federal	0.303	0.0
	Municipal	113.451	1.8
	Other	104.509	1.6

	School	29.015	0.5
	State	46.207	0.7
Upper Pittsgrove Total		6435.782	100.0
Woodstown	Cemetery	22.503	12.8
	Church / Charity	19.58	11.2
	County	14.915	8.5
	Municipal	60.723	34.6
	Other	3.504	2.0
	School	47.582	27.1
	State	6.453	3.7
Woodstown Total		175.26	100.0
Salem County Total		49158.541	

<u>Drainage Basin</u>	<u>Watershed Management Area</u>	<u>Watershed</u>	<u>Acreeage</u>
Oldmans Creek	Lower Delaware	Lower Delaware	13653.590
Alloway Creek / Hope Creek	Maurice, Salem, and Cohansey	Lower Delaware	49743.325
Cohansey River (above Sunset Lake)	Maurice, Salem, and Cohansey	Lower Delaware	5163.565
Delaware Bay (Cape May Pt to Fishing Ck)	Maurice, Salem, and Cohansey	Lower Delaware	42.314
Maurice River (above Sherman Ave Bridge)	Maurice, Salem, and Cohansey	Lower Delaware	10826.119
Muddy Run	Maurice, Salem, and Cohansey	Lower Delaware	28259.340
Pennsville / Penns Grove tribs	Maurice, Salem, and Cohansey	Lower Delaware	8586.281
Pennsville / Penns Grove tribs	Maurice, Salem, and Cohansey	Lower Delaware	6305.492
Salem R(above 39d40m14s dam)/Salem Canal	Maurice, Salem, and Cohansey	Lower Delaware	37313.538
Salem River (below 39d40m14s dam)	Maurice, Salem, and Cohansey	Lower Delaware	37705.186
Scotland Run	Maurice, Salem, and Cohansey	Lower Delaware	269.313
Still Run / Little Ease Run	Maurice, Salem, and Cohansey	Lower Delaware	5782.744
Stow Creek	Maurice, Salem, and Cohansey	Lower Delaware	18899.697

REFERENCES & NOTES:
 Municipal boundaries based upon Salem County Tax maps as digitized by Civil Solutions, Inc. May, 2002.
 Roadways shown as digitized by Civil Solutions, Inc. May, 2002.
 Lakes and Rivers based upon NJDEP GIS coverage, 1988.
 1995 Land Use / Land Cover taken from NJDEP GIS Databases for WARETT & SHARPE'S, 2001.
 This map has been prepared as an aid for planning in Salem County. Data on this map should not be relied upon for individual lot planning.
 This map was developed using NJDEP & NJGIS Geographic Information System digital data, but this secondary product has not been verified by the NJDEP or NJGIS and is not State - authorized.

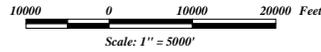
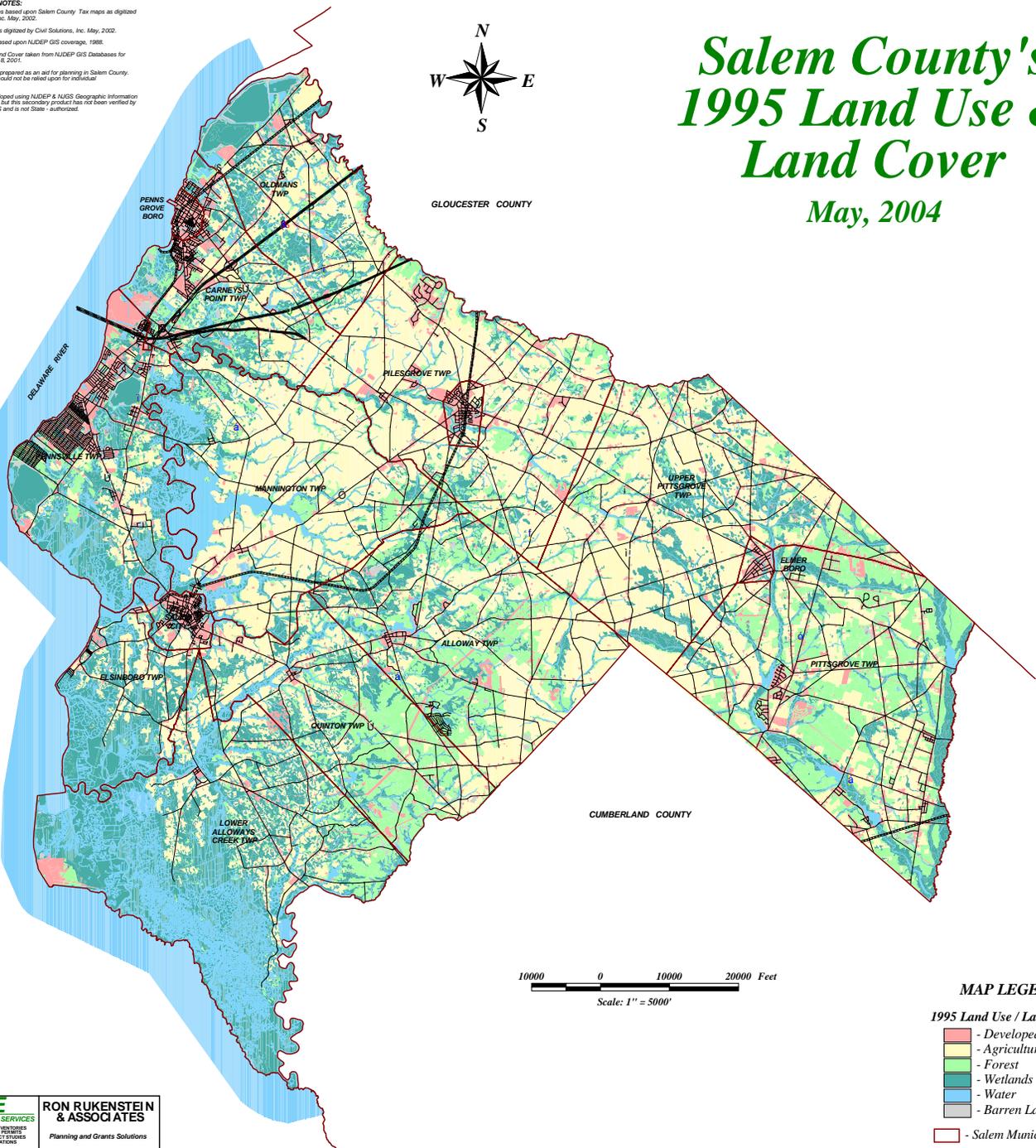


Salem County's 1995 Land Use & Land Cover

May, 2004

GLOUCESTER COUNTY

CUMBERLAND COUNTY



MAP LEGEND:

- 1995 Land Use / Land Cover**
- Developed
 - Agriculture
 - Forest
 - Wetlands
 - Water
 - Barren Land
- Salem Municipalities

WHITE ENVIRONMENTAL SERVICES <small>NATURAL RESOURCES DEVELOPMENT GIS ANALYSIS - NEED ASSESSMENT ENVIRONMENTAL IMPACT STUDIES WETLANDS DELINEATIONS</small>	RON RUKENSTEIN & ASSOCIATES <small>Planning and Grants Solutions</small>
	<small>985 Swanton Road Philadelphia, NJ 08108</small>

Open Space & Farmland Summary Pivot Table

Count of ACRES		
MUNICIPALITY	OPEN_SPACE	Total
Alloway	Farmland	31
	Farmland - Pending	3
	2004(A) Direct Easement Round	2
	State	43
	County	7
	Municipal	42
	School	7
	Church / Charity	14
Alloway Total		149
Carneys Point	Farmland	1
	Federal	1
	State	13
	County	2
	Municipal	37
	School	8
	Church / Charity	25
	Cemetery	1
	Other	18
Carneys Point Total		106
Elmer	Federal	1
	State	4
	County	1
	Municipal	27
	School	2
	Church / Charity	19
	Other	7
Elmer Total		61
Elsinboro	Farmland	24
	2004(A) Direct Easement Round	1
	State	13
	Municipal	9
	School	1
	Church / Charity	1
	Cemetery	2
	Other	1
Elsinboro Total		52
Lower Alloways Creek	Farmland	29
	2004(A) Direct Easement Round	2
	Federal	2
	State	63
	County	2
	Municipal	62
	School	2
	Church / Charity	7
	Cemetery	4
	Other	1
Lower Alloways Creek Total		174
Mannington	Farmland	44
	Farmland - Pending	7
	2004(A) Direct Easement Round	3
	State	31
	County	1

Mannington	Municipal	19
	School	4
	Church / Charity	14
	Cemetery	2
	Other	1
Mannington Total		126
Oldmans	Farmland	3
	2004(A) Direct Easement Round	1
	Federal	10
	State	9
	Municipal	16
	School	3
	Church / Charity	6
	Cemetery	8
Other	7	
Oldmans Total		63
Penns Grove	Federal	1
	County	2
	Municipal	68
	School	5
	Church / Charity	21
	Cemetery	2
Other	13	
Penns Grove Total		112
Pennsville	Federal	11
	State	8
	County	2
	Municipal	360
	School	7
	Church / Charity	30
	Cemetery	2
Other	5	
Pennsville Total		425
Pilesgrove	Farmland	37
	2004(A) Direct Easement Round	2
	State	11
	County	3
	Municipal	12
	School	2
	Church / Charity	7
Cemetery	5	
Pilesgrove Total		79
Pittsgrove	Farmland	61
	Federal	1
	State	39
	Municipal	39
	School	4
	Church / Charity	22
	Cemetery	6
Other	15	
Pittsgrove Total		187
Quinton	Farmland	29
	2004(A) Direct Easement Round	2
	2005(A) Direct Easement Round	3
	State	2
	County	1

Quinton	Municipal	49
	School	1
	Church / Charity	18
	Cemetery	2
	Other	4
Quinton Total		111
Salem City	Federal	1
	County	23
	Municipal	129
	School	7
	Church / Charity	63
	Cemetery	7
	Other	13
Salem City Total		243
Upper Pittsgrove	Farmland	118
	Farmland - Pending	6
	2004(A) Direct Easement Round	1
	Federal	1
	State	2
	County	2
	Municipal	11
	School	1
	Church / Charity	12
	Cemetery	4
	Other	5
Upper Pittsgrove Total		163
Woodstown	State	2
	County	10
	Municipal	23
	School	3
	Church / Charity	18
	Cemetery	5
	Other	4
Woodstown Total		65
(blank)	(blank)	
(blank) Total		
Grand Total		2116



REFERENCES & NOTES:

Farmland Preservation data supplied by the Salem County Agriculture Board, 2006.
 Public Lands based upon 2002 Municipal Tax Assessor Records supplied by Civil Solutions, Inc., May, 2002.
 Rivers and Lakes taken from NJDEP GIS database, 1986.
 This map has been prepared as a guide for the Salem County Natural and Cultural Resources Inventory. Data on this map should not be relied upon for individual lot planning.
 This map was developed using NJDEP & NJGS Geographic Information System digital data, but this secondary product has not been verified by the NJDEP or NJGS and is not State - authorized.

GLOUCESTER COUNTY

CUMBERLAND COUNTY

MAP LEGEND:

- Open Space & Preserved Farmland**
- Federal Land
 - State Land
 - County Land
 - Municipal Land
 - Schools
 - Church / Charity
 - Cemetery
 - Other Non-Profit Land
 - Preserved Farmland
 - Preserved Farmland - Pending
 - 2004(A) Direct Easement Application
 - 2005(A) Direct Easement Application
- Salem County's Agricultural Development Area



WHITE
 ENVIRONMENTAL SERVICES
 NATURAL RESOURCE INVENTORIES
 GIS MAPPING - NJDEP PERMITS
 ENVIRONMENTAL IMPACT STUDIES
 WETLANDS DELINEATIONS

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Open Space and Farmland Preservation
 Natural and Cultural Resource Inventories
 Salem County, New Jersey

Scale: 1" = 15,000' Date: 1/15/06

RON RUKENSTEIN & ASSOCIATES
 Planning and Grants Solutions

P.O. Box 1 Titusville, NJ 08560 (609) 730-8138 Fax: (609) 730-8139

**Salem County
Natural Resources Inventory**

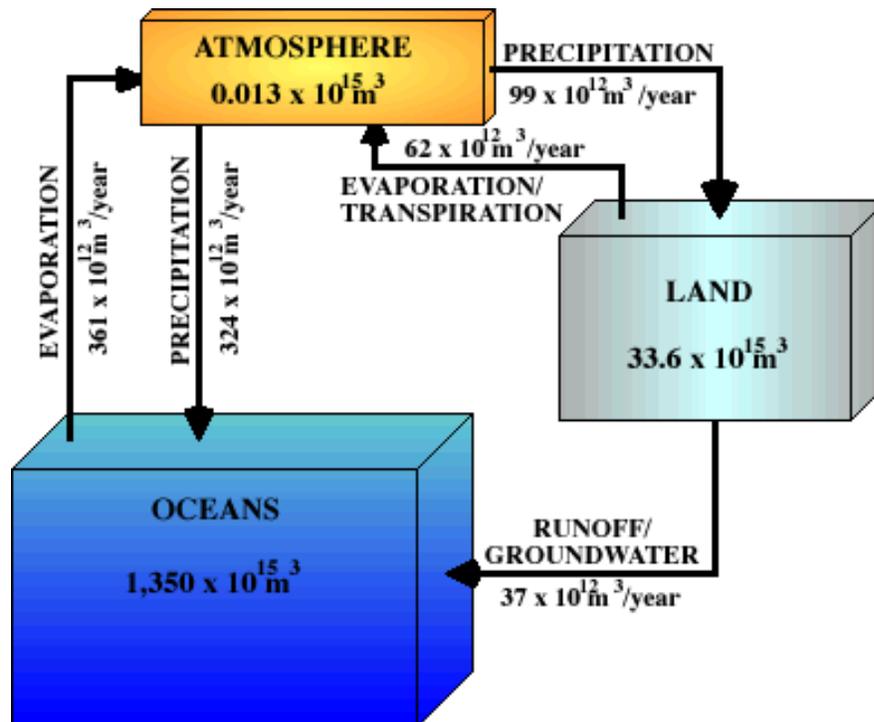
WATER

WATER

Introduction

Water is a natural feature which plays a major role in shaping patterns of growth and development. In fact, the presence or absence of water probably has the strongest influence on human settlement of any natural resource. Hydrological studies can be divided into two categories: groundwater systems, including aquifers and recharge areas, which play a critical role in potable water resources, and surface water system including lakes, rivers, and streams which provide both physical barriers to development, as well as sources of recreation and homes to the plants and animals of diverse aquatic and marine ecosystems. The two systems, although somewhat different in nature, are actually quite interrelated. An overview of the hydrologic system is represented below.

The Hydrologic Cycle



GROUND WATER HYDROLOGY

The critical nature of the underground water situation in the western section of Salem County should also be considered as it relates to and is affected by surface water management practices. Since we have learned in other studies that the underground water-bearing sands must be recharged from their surface outcrop areas or through gradual percolation of waters from sand aquifers lying above them, we can see that surface water management practices can easily assume a life or death control over the availability and portability of underground water sources. When precipitation is not permitted to seep into the surface soils, but rather is piped quickly into streams leading directly to the bay, the amount of water reaching underground storage areas is diminished. When surface waters being introduced into the aquifer outcrop areas are contaminated, either with man-made waste or salt water, wells withdrawing water from that particular aquifer are in eminent danger of contamination.

This is of particular importance in the western half of the County because of the underground geologic pattern that exists. In the area of the County lying generally northwesterly from a line between Salem and Auburn, only one sub-surface water-bearing sand formation exists. This is the Raritan-Magothy Formation which outcrops under the Delaware River and along its western banks. Unlike most of the other sections of Southern New Jersey, this area of Salem County has no deeper water-bearing formation, which might be tapped in the event that the Raritan-Magothy Formation is damaged beyond repair. This is true because the formation rests on bedrock from which no water may be expected.

In the vicinity of Salem City, a second water-bearing formation, the Mount Laurel-Wenonah Sand, outcrops. The sands of this formation being at the surface are more susceptible to local contamination than are those of the Raritan-Magothy, which are protected by overlying clay lenses. However, recent tests made by U.S.G.S. investigators indicated that there is the possibility of an appreciable amount of percolation into the Raritan-Magothy through these clay lenses. This factor together with the importance of maintaining high quality water entering the Mount Laurel-Wenonah Formation, underlines the importance of taking steps to increase the amount of high quality surface water available for recharge of these aquifers, as well as the importance of other surface water management techniques designed to protect the aquifers from man-made contaminants and the intrusion of salt water. Tests have shown that there is very little salt water intrusion into the Raritan-Magothy from beneath the Delaware River, because of the natural seal formed by siltation. However, this is not true of tidal estuaries where salt water ebbs and flows over wide inland expanses. Considered strictly from the standpoint of enhancing underground water reserves, fresh water impoundments in tidal areas provide a two-pronged approach: they arrest the escape of fresh surface water and retain it for gradual percolation into the ground reserves, while at the same time they protect that particular area from salt water infiltration. These groundwater hydrologic considerations apply with special emphasis in the Mannington Meadow area.

GROUND WATER SYSTEMS

Potamac-Raritan-Magothy (PRM)

The aquifers in the PRM formation are the most important hydrologic unit in the region. The quality of the majority of the water is very good, and is suitable for many uses, however, at some distance down from the intake area, salt water intrusion is a problem. In areas of heavy pumping and along some freshwater portions of the Delaware River, the normal flow pattern of recharge has been reversed such that the river now supplies much of the water drawn from these wells. This reversal is caused by the pumping of approximately 235 million gallons daily from the aquifer, at a rate greater than it can be recharged by the normal processes of precipitation on intake areas, filtration from bodies of surface water in intake areas, and by leakage from adjacent sand formations. Precipitation is normally the major source of recharge for the water that is retained in the porous underground strata of aquifers, the level of the water has fallen nearly 100 feet. Instead of excess freshwater overflowing the aquifer and spilling into saltwater bodies, such as the Delaware Bay, saltwater is sucked into the aquifer to replace the freshwater which is now far below capacity. As more and more water is drawn by wells, the threat of saltwater intrusion increases. Increased pumping in the more highly developed industrial corridor north of Salem County, where the PRM aquifer is the only major source of groundwater, tends to draw groundwater reserves northward. This causes recharge along the lower reaches of the Delaware River to increase, which in turn greatly increases the potential for saltwater intrusion in the lower PRM aquifer.

Clearly, new sources of water must be found as the PRM becomes less adequate. In 1988, the NJDEPE designated a "Water Supply Critical Area Number 2" which encompasses portions of an eight county region in the Middle PRM aquifer in which groundwater supply levels are considered to be near depletion. A three mile wide marginal area, in which groundwater supplies are in threat of depletion, surrounds the depleted zone. Only a small portion of Eastern Salem County falls within the critical area. This map also shows the yield of major aquifers in the County, expressed in gallons pumped per minute.

Cohansey

The Cohansey sands are considered the greatest potentially productive aquifer in the New Jersey Coastal Plain. The aquifer, which is composed of highly permeable sands and gravels, has the ability to store and transmit large quantities of water. Its outcrop area of 2,350 square miles is exposed to massive amounts of precipitation. The capacity of the system is estimated at 17 trillion gallons, the largest of any underground aquifer in the United States. This supply has long been seen as an alternative to the ever-depleting PRM aquifer which is currently the major source of water for Southern New Jersey, and as a potential source of water for other areas. This aquifer has an added restraint in that it underlies the fragile Pinelands ecosystem. A major disturbance, such as excess water

withdrawal, could have a disastrous impact on the Pinelands. Fortunately, the system is well monitored by means of a State withdrawal permit allocation system.

Unfortunately, the Cohansey aquifer faces some of the same problems of excess withdrawal and saltwater intrusion as does the PRM aquifer. Although the known and potential sources of encroachment are not located in Salem County, they never-the-less affect the system as a whole. The quality of water in the Cohansey is mainly dependent on local conditions at the surface, as it is recharged directly by percolation of precipitation. This makes the aquifer more susceptible to damage from surface pollution, especially non-point sources of pollution from septic systems, agricultural runoff and incidental spills of chemicals.

While the recharge areas for the PRM aquifer is heavily developed in most areas, that of the Cohansey is not. Controversy frequently arises as to the level of development which should be permitted or planned for within the recharge area. Clearly growth should be controlled in order for the aquifer to continue to function at its greatest potential, but questions of complete conservation versus planned growth, economic development potential, agricultural suitability, and land-owner equity must be addressed and solved before irreversible damage is done to the largest and best future source of water for Salem County.

Minor Aquifers

Three other aquifers of minor importance exist within the County. The Mount Laurel and Wenonah sands formation outcrops in a comparatively narrow band extending northeastwardly from the vicinity of Salem City. These sands function together as one aquifer. In their capacity to store and transmit water, they are inferior to the Raritan-Magothy and Cohansey sands. Geologists have pointed out that it is quite probable that this aquifer contains saltwater not too many mile down dip. Substantial lowering of the water table or excessive withdrawal of water from the aquifer would result in saltwater infiltration in the wells located closest to the saltwater front.

The Vincetown sand is a minor source of water. It serves as one of the sources of supply for the City of Salem, and is used elsewhere as a source of domestic and farm water supply. Geologists have concluded that its usefulness as a major source of groundwater is quite limited.

The Kirkwood Sands comprise a large area but limited source of water. So far, it has been developed only for domestic and farm supplies. The Major source of recharge is from precipitation on the permeable parts of its outcrop area. Since the sands are fine grained and of relatively low permeability in and near the outcrop area, it is unlikely that many large wells can be developed in this aquifer.

SURFACE WATER SYSTEMS

As the name implies, a surface water system consists of those bodies of water on the surface of the ground, such as lakes, rivers and streams, and marshes and meadows, and the drainage mechanisms and pathways the water follows on-route to the ocean. Many lakes and ponds can be found along the streams and rivers which bisect the County (**see attached list of Lakes and Ponds**). These lakes act as filters for suspended sediments from upstream run-off. The excess buildup of nutrients, called eutrophication, usually occurs to some degree in all lakes. Where eutrophication occurs at an accelerated rate, such as areas prone to run-off from urbanization or agricultural activity, excessive algae blooms may occur. Eventually, through biological processes, higher plant forms may begin to grow in these areas, water flow is disturbed, excess sediment is deposited and the lakes are transformed into wetlands such as bogs, swamps or freshwater meadows. While this network of waterways is generally considered separate from groundwater systems, the two are interconnected.

A drainage basin (or watershed) is the area of land from which water, in the form of precipitation or surface runoff, is drained by a particular river. In Salem, County, all surface water eventually drains into the Delaware Bay by means of the Delaware, Salem, Cohansey, and Maurice Rivers or Oldmans, Stow and Alloways Creeks. A natural barrier, created by topography or geologic features, channels water into a particular basin. These boundaries are known as drainage divide. In the western and central portion of the County, natural drainage is generally in a westerly direction, while in the eastern and southern parts, water flows southward.

Even though potential flooding is characteristic of flat terrain such as Salem County, the major deposits of sandy and gravelly soils prevalent in the County help to counteract by their ability to absorb large quantities of water. Flooding usually occurs in these areas only during heavy downpours which cannot be quickly absorbed, such as when the ground is frozen or still saturated or contain large amount of silt and clay are more prone to frequent flooding. Such areas, usually adjacent to bodies of surface water are referred to as floodplains. In Salem County, floodplains are found along stream and river corridors and along the western edge of the County.

Inland, or riverine, floodplains tend to be narrow and covered with heavy vegetation. These areas can usually contain floodwaters while they are slowly released down stream. The vegetative cover not only helps in containing floodwaters, but also in controlling erosion and sedimentation of river beds. Nutrient concentrations tend to make these areas quite fertile, and thus supportive of both plant and animal life. These areas may be suitable for passive recreation, but are generally not suitable for agriculture or development purposes, as they are not only subject to flooding, but to severe erosion once the vegetation is cleared. Both flooding and erosion can result in property damage, structural instability and person injury. Efforts are being made in setting aside such areas as greenways or stream corridor buffer zones in order to protect both the natural resources found there, as well as for providing open space areas for recreational use.

Unfortunately, development pressure is often great in these areas due to the pleasant physical settings they provide. Ironically, those features which most attract people are the ones which are destroyed by development. Riverine floodplains are usually included in the wetlands category which is addressed in a later section.

As the rivers flow toward the western and southern lowlands of the County, they tend to broaden and slowly meander across the land. The lack of clear, direct flow in these areas with high water tables which are also subject to tidal flooding on a daily basis, result in the creation of marshes and meadowlands. Approximately 16% of Salem County is covered by these lands (which also fall into the wetlands category). The marshes, shallow bodies of water with submerged and emergent wetland flora, and meadows, level wetlands predominately covered with grasses and sedges, are areas of high productivity for fish, shellfish, insects and the animals which feed on them. As with riverine floodplains, tidal floodplains are subject to the same development constraints, for similar reasons. In some cases, meadowlands have been drained and diked for flood protection or farming. Activities such as these need to be carefully monitored and controlled. These fragile areas which act as a naturally reservoirs to prevent flooding of highly developed adjacent uplands, such as Salem City and Pennsville, can easily be upset.

Leaching from on-site septic systems directly into surface water is of eminent concern. Table 3 contains information about surface water quality compiled by NJDEPE. It should be noted that precipitation and storm water runoff which is contaminated pollutes surface water directly and groundwater through the recharge process. Similarly, bodies of water used as dumping grounds for “pollution dilution” also contaminate groundwater supplies. Pollution of surface water also directly harms the wildlife which feed or live in it, as well as the plants which grow in the environs. It is usually quite difficult to balance environmental objectives against the economic potential of development for recreational purposes (marinas, vacation homes) and water related or water dependent industrial uses.

Salem County Lakes and Ponds	
Alloway	Alloway Lake *Ballinger's Mill Pond **Bostwick Lake Cobbs Mill Pond Paradise Lake Ponchatola Lake Sycamore Lake Watsons Lake
Carneys Point	Hudson Lake Laytons Lake Sand Wash Pond
Elmer	*Elmer Lake
Lower Alloways Creek	Maskells Mill Pond Stow Creek Pond
Pilesgrove	Avis Mill Pond East Lake **Harrison Lake Kelly Lake
Pittsgrove	Centerton Lake Green Branch Pond Palatine Lake Parvins Lake Rainbow Lake Thundergust Lake Willow Grove Lake
Quinton	Cocked Hat Pond Elkinton Lake Larkspur Lake Laurel Lake Mickells Mill Pond Rhodo Lake Woodmere Lake
Upper Pittsgrove	Algonkin Lake Daretown Lake Fox's Mill Pond Jessups Mill Pond Sadies Pond Slabtown Lake
Woodstown	Memorial Lake
<i>* Crosses Municipal Boundary</i> <i>** Crosses County Boundary</i>	

WETLANDS

A discussion of hydrological systems would not be complete without mentioning the often controversial wetlands. As the name implies, wetlands are, according to the US Department of the Interior, tracts of land “where saturations with water is the dominant factor determining the nature of soil development and the types of plants and animal communities living in the soil and on its surface.” This includes areas ranging from isolated highland areas, lake margins and river edges, marshes, meadows, coastal wetlands and barrier island formations. They are not necessarily always wet or even visibly wet at the surface. Wetlands can also be delineated by the identification of hydric soil classes or the presence of hydrophytes (water associated plants).

Wetlands are classified into an extensive hierarchy (consult “Classifications of Wetlands and Deepwater Habitats”, Fish and Wildlife Service, USDI, 1979 and “Our National Wetland Heritage”, Dr. J. Kusler, Environmental Law Institute, 1983). However for the purposes of this report, they will be divided into only two general categories: Tidal (usually saltwater) and non-tidal (usually freshwater). Both types of wetlands perform vital functions in maintaining and environmental equilibrium. The alteration and development of these lands hampers or even destroys these abilities, thus development is usually severely limited or prohibited. In addition to many local land-use regulations, both the State and Federal governments have created extensive regulatory procedures regarding wetlands development and preservation.

The wetlands, those areas affected by daily tides, including coastal and estuarine areas, barrier islands and marsh and meadowland, have been delineated by the State of New Jersey, while non-tidal areas, usually freshwater, such as those found along rivers, lakes and isolated upland areas, have not yet been mapped for wetland permit application purposes (although the National Wetland Inventory maps provide a general overview of the location of freshwater wetlands). Delineation of such areas usually occurs in a piecemeal fashion as individual parcels are reviewed during development application procedures. Even man-made ditches and swales which, through ecological processes, have evolved to conditions which meet wetland- identification criteria are usually classified as wetlands. Because non-tidal wetlands usually appear less obviously unusable than do tidal wetlands, people are often unaware of the potential hazards of building there. Inadequate soil support, potential flooding and inability to support on-site septic systems are among the limitations.

In any case, the delineation of wetlands is often controversial in that regulations which prohibit development interfere with economic gains of landowners. The location of wetlands is one which naturally has high development potential for waterfront properties, commercial recreational facilities or water-related industry. As with all environmental constraints, there is a need to balance short-term economic benefits with long-term ecological consequences.

NATURAL WATER AREAS

In analyzing the physical features of Salem County in search of bodies of water which have recreation potential, one attention is drawn first to the western section of the County. Bordering the entire western boundary of Salem County is the Delaware River.

However, the western area has much more to offer than just the Delaware River. Oldmans Creek, while serving as the northern political boundary of Salem County also marks, for all practical purposes, the northern terminus of the population crescent.

Running almost due west, then south, is the Salem River. While its headwaters are in Upper Pittsgrove Township, the river drains the Woodstown-Sharptown area, where it picks up its first substantial contribution of sewage plant effluent. The Salem River forms the principal stream through the Mannington Meadow, bypasses the City of Salem and empties into the Delaware, forming the boundary between Pennsville and Elsinboro Township. Draining the southerly third of the County is Alloways Creek, one of the best preserved and naturally beautiful creeks in Southern New Jersey. While it does not run directly through any major population centers, it was responsible for the origins of Alloway and Quinton and is close enough to Salem City and Elsinboro to warrant careful examination and planning controls to assure its future purity and usability.

Finally, there is the Mannington Meadow, nine square miles of tidal marsh and minor estuaries. The major concern for attributing such importance to the meadow is that it lies directly within the population crescent.

WATERSHEDS

The Salem River Watershed covers one-third of Salem County's mostly rural landscape and includes 13 of the county's 15 municipalities. Because we are all dependent upon our watersheds we must protect the health of our watersheds from those things that threaten to damage them. One such threat is non-point source pollution (NPS). Non-point source pollution is the contamination of our ground water, waterways, and ocean that results from many different pollutants (fertilizing, littering, pesticides, household hazardous products, etc.) being deposited into our water resources. Rainfall, snowmelt, and irrigation can carry these pollutants as run-off from the land into our water. The health of the watershed impacts Salem County's vast natural resources. The Salem River, which is the spine of the watershed, is cited by the Nationwide Rivers Inventory for "outstandingly remarkable values" - yet, it is also a watershed with critical water quality impairments and threats.

REFERENCES & NOTES:

Roadways shown as digitized by Civil Solutions, Inc. May, 2002.
 Lakes and Rivers based upon NJDEP GIS coverage, 1988.
 Aquifers based upon NJGIS GIS database "Aquifers of New Jersey (DGSDM-6), 1993.
 Wells and Wellhead Protection Areas based upon NJGIS GIS database, 2004.
 Groundwater Contamination Sites based upon NJDEP GIS database "Classification Exception Areas/Well Restriction Areas Polygon Maps for New Jersey", 2004.
 Known Contaminated Sites based upon NJDEP GIS database "Known Contaminated Site List for New Jersey", 2001.
 This map has been prepared as an aid for planning in Salem County. Data on this map should not be relied upon for individual lot planning.
 This map was developed using NJDEP & NJGIS Geographic Information System digital data, but this secondary product has not been verified by the NJDEP or NJGIS and is not State - authorized.

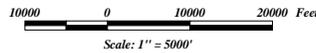
Salem County's Aquifers and Wellhead Protection Areas

June, 2004



GLOUCESTER COUNTY

CUMBERLAND COUNTY



MAP LEGEND:

Bedrock Aquifers

- Potomac-Raritan-Magothy aquifer system
- Merchantville-Woodbury confining unit
- Englishtown aquifer system
- Marshalltown-Wenonah confining unit
- Mt. Laurel-Wenonah aquifer
- Composite confining unit
- Composite confining unit aquifer
- Kirkwood-Cohansey aquifer system

Surface Aquifers

- Surficial sediment of the Coastal Plain > 50 ft thick

Water Supply Wells

- Non-Public Wells
- Public Wells - 2004

Wellhead Protection Areas

- Tier 1: 2 year time of travel
- Tier 2: 5 year time of travel
- Tier 3: 12 year time of travel

NJDEP 2001 Known Contaminated Sites

Groundwater Contaminations Sites

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Groundwater Recharge Rates - Data Pivot Table

Salem County Groundwater Recharge Rates

Sum of ACRES	
CRANK	Total
A	4540.863
B	91095.92
C	23274.971
D	544.983
E	3752.405
L	17894.783
W	77280.939
Grand Total	218384.864

Key:

- A = 13 to 15" per year
- B = 9 to 12 per year" per year
- C = 6 to 8" per year
- D = 1 to 5" per year
- E = NO RECHARGE
- L = Hydric Soils
- W = Wetlands & Open Water



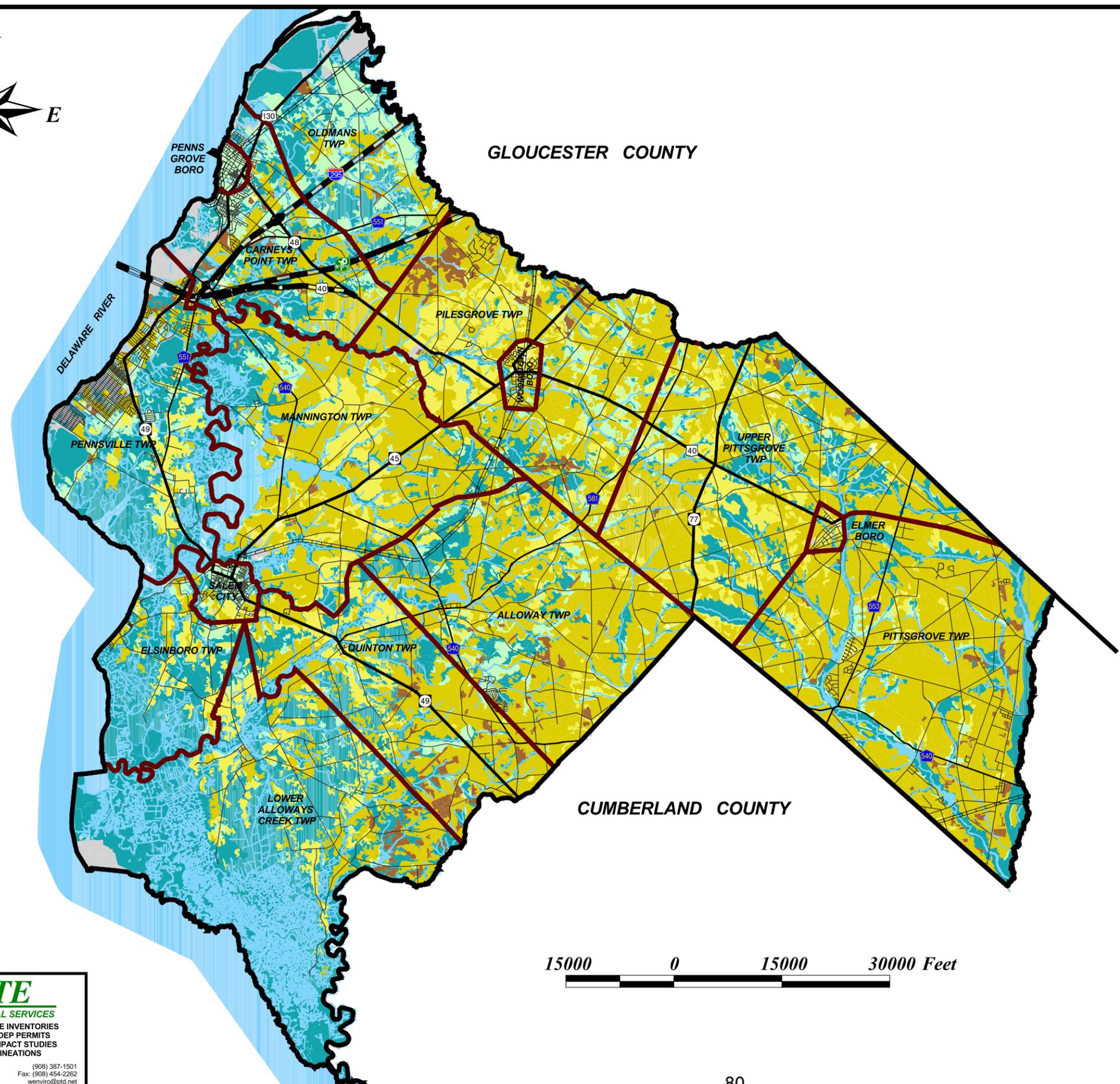
REFERENCES & NOTES:

Groundwater Recharge Rates based upon NJGS GIS coverage of "Ground-Water Recharge for Salem County, NJ", 10/8/04

Rivers and Lakes taken from NJDEP GIS database, 1986.

This map has been prepared as a guide for the Salem County Natural and Cultural Resources Inventory. Data on this map should not be relied upon for individual lot planning.

This map was developed using NJDEP & NJGS Geographic Information System digital data, but this secondary product has not been verified by the NJDEP or NJGS and is not State - authorized.



MAP LEGEND:

2005 Groundwater Recharge Rates

- 13 to 15 in/yr
- 9 to 12 in/yr
- 6 to 8 in/yr
- 1 to 5 in/yr
- No Recharge
- Hydric Soil
- Wetlands and Open Water



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Groundwater Recharge
 Natural and Cultural
 Resource Inventories
 Salem County, New Jersey

Scale: 1" = 15,000'

Date: 1/15/06

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REFERENCES & NOTES:

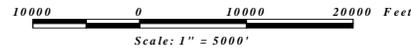
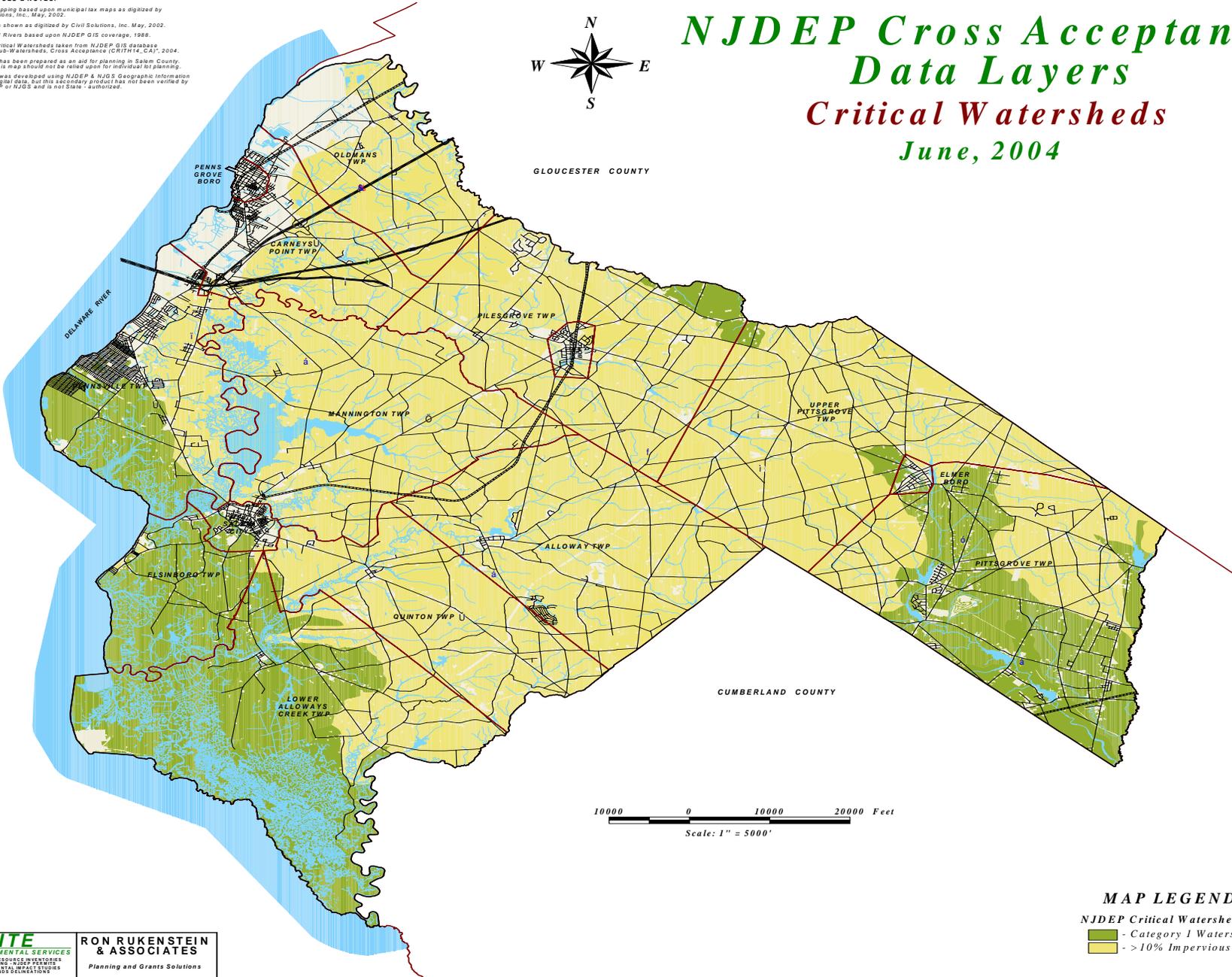
Parcel mapping based upon municipal tax maps as digitized by Civil Solutions, Inc., May, 2002.
 Roadways shown as digitized by Civil Solutions, Inc., May, 2002.
 Lakes and Rivers based upon NJDEP GIS coverage, 1988.
 NJDEP Critical Watersheds taken from NJDEP GIS database "Critical Sub-Watersheds, Cross Acceptance (CRITH4_CA)", 2004.
 This map has been prepared as an aid for planning in Salem County, Delaware. Data on this map should not be relied upon for individual lot planning.
 This map was developed using NJDEP & NJGIS Geographic Information System digital data, but this secondary product has not been verified by the NJDEP or NJGIS and is not State-authorized.

NJDEP Cross Acceptance Data Layers Critical Watersheds June, 2004



GLOUCESTER COUNTY

CUMBERLAND COUNTY



MAP LEGEND:
 NJDEP Critical Watersheds
 - Category 1 Watersheds
 - >10% Impervious Surface

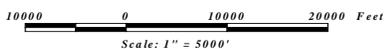
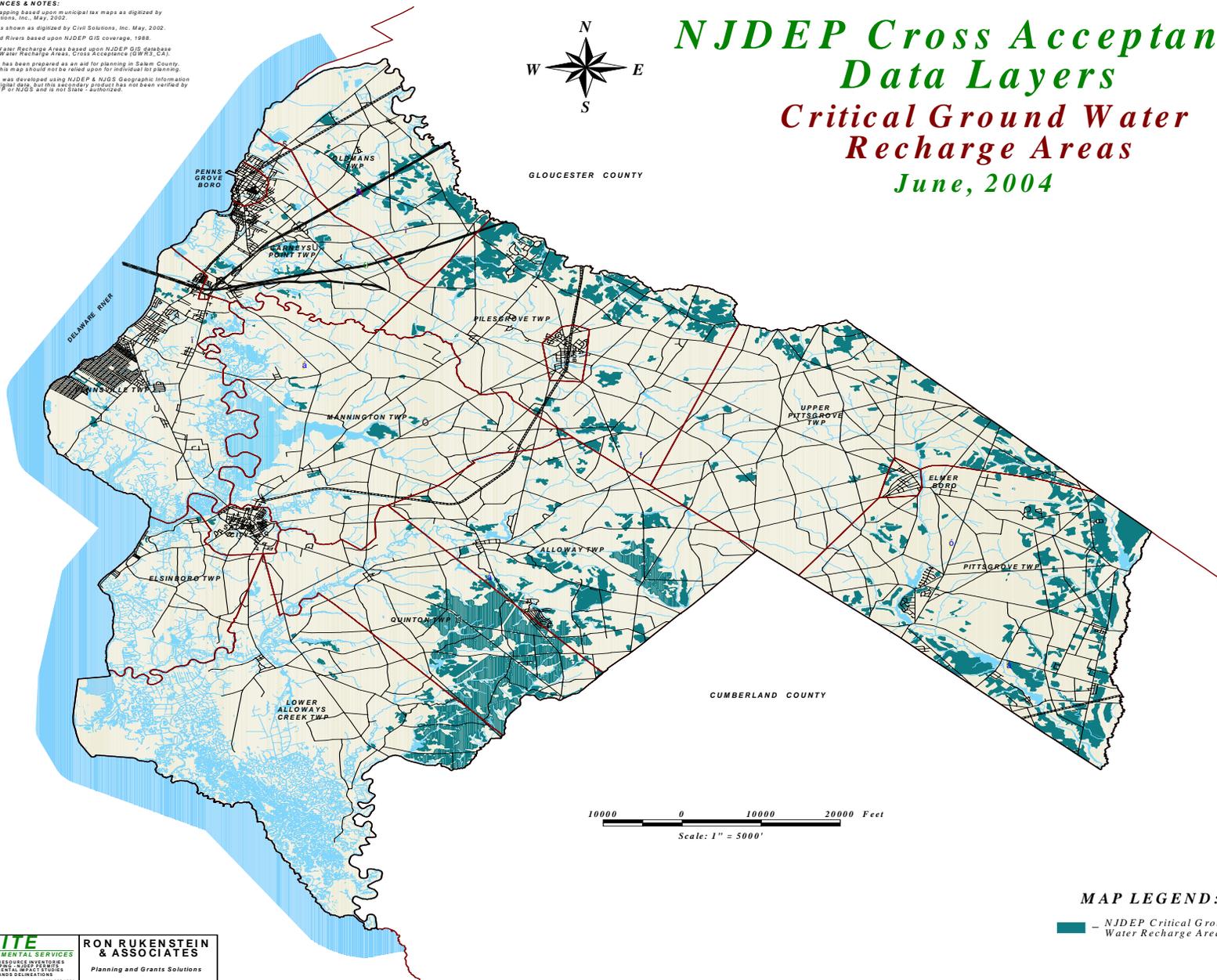
<p>WHITE ENVIRONMENTAL SERVICES NATURAL RESOURCE & WETLANDS ENGINEERING & PLANNING WETLANDS DELINEATIONS</p>	<p>RON RUKENSTEIN & ASSOCIATES Planning and Grants Solutions</p>	
	<p>241 Brookside Road Marlton, NJ 08053</p>	<p>Phone: 609-261-1511 Fax: 609-261-2323 Email: Ron@rrak.com</p>

REFERENCES & NOTES:
 Parcel mapping based upon municipal tax maps as digitized by Civil Solutions, Inc. May, 2002.
 Roadways shown as digitized by Civil Solutions, Inc. May, 2002.
 Lakes and Rivers based upon NJDEP GIS coverage, 1988.
 Ground Water Recharge Areas based upon NJDEP GIS Database "Ground Water Recharge Areas: Cross Acceptance (GWR2.CA)".
 This map has been prepared as an aid for planning in Salem County. Data on this map should not be relied upon for individual lot planning.
 This map was developed using NJDEP & NCEM Geographic Information System digital data, but this secondary product has not been verified by the NJDEP or NCEM and is not State authorized.

NJDEP Cross Acceptance Data Layers

Critical Ground Water Recharge Areas

June, 2004



MAP LEGEND:
 NJDEP Critical Ground Water Recharge Areas

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Freshwater Wetlands Pivot Table

Sum of ACRES		
GENERAL_CL	LABEL	Total
Disturbed Wetlands	AGRICULTURAL WETLANDS (MODIFIED)	9001.982
	DISTURBED WETLANDS (MODIFIED)	1179.119
	MANAGED WETLANDS (MODIFIED)	399.802
	WETLAND RIGHTS-OF-WAY (MODIFIED)	252.349
Disturbed Wetlands Total		10833.252
Forested Wetlands	ATLANTIC WHITE CEDAR WETLANDS	147.566
	CONIFEROUS WOODED WETLANDS	1456.411
	DECIDUOUS WOODED WETLANDS	18167.893
	MIXED FORESTED WETLANDS (CONIFEROUS DOM.)	1973.285
	MIXED FORESTED WETLANDS (DECIDUOUS DOM.)	2841.673
Forested Wetlands Total		24586.828
Herbaceous Wetlands	FRESHWATER TIDAL MARSHES	1.068
	HERBACEOUS WETLANDS	5410.66
Herbaceous Wetlands Total		5411.728
Scrub / Shrub Wetlands	CONIFEROUS SCRUB/SHRUB WETLANDS	83.652
	DECIDUOUS SCRUB/SHRUB WETLANDS	3540.523
	MIXED SCRUB/SHRUB WETLANDS (CONIFEROUS DOM.)	125.528
	MIXED SCRUB/SHRUB WETLANDS (DECIDUOUS DOM.)	289.624
Scrub / Shrub Wetlands Total		4039.327
Grand Total		44871.135



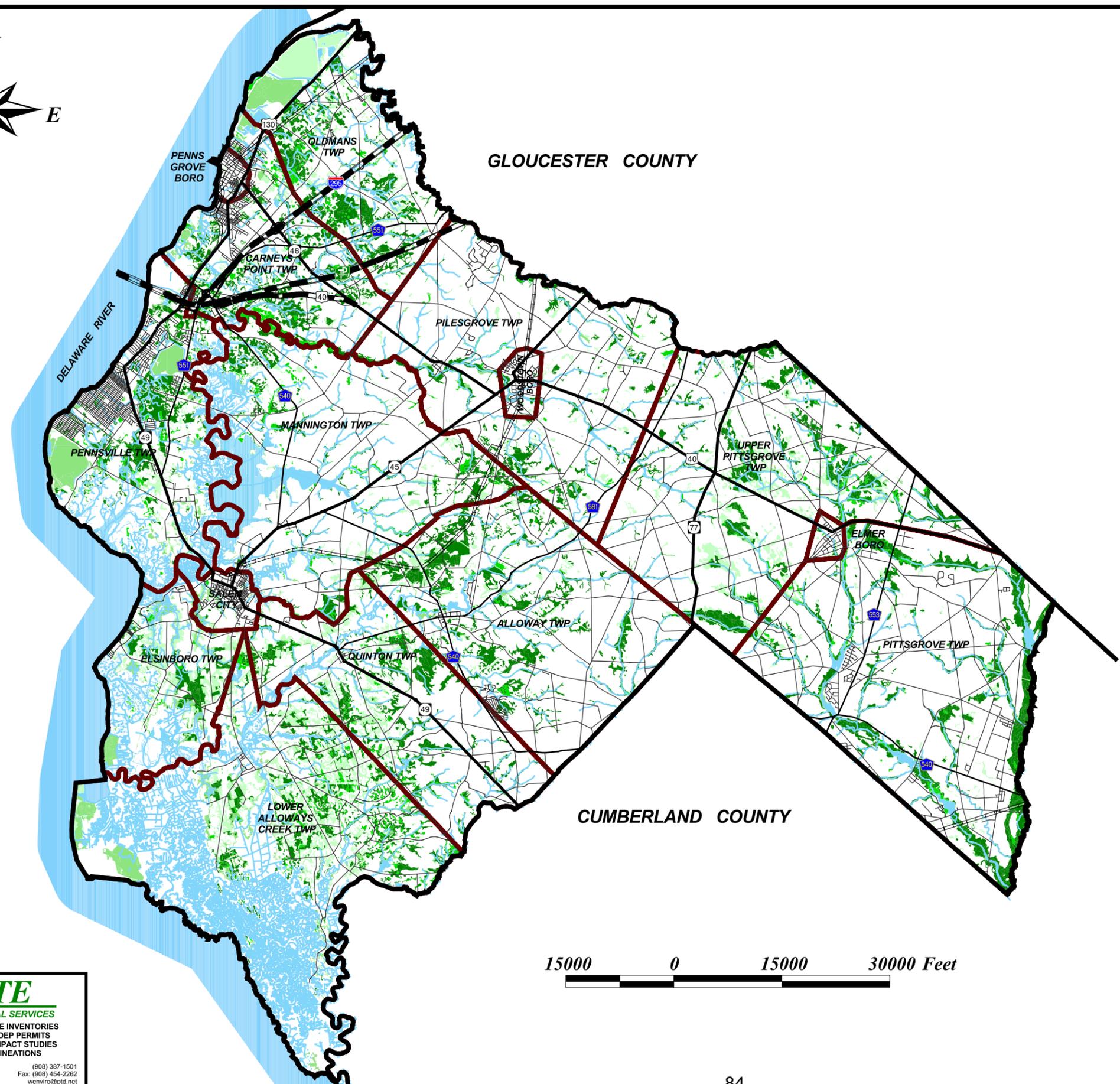
REFERENCES & NOTES:

Wetlands based upon NJDEP GIS coverage of the NJ Wetlands Inventory, 1988.

Rivers and Lakes taken from NJDEP GIS database, 1986.

This map has been prepared as a guide for the Salem County Natural and Cultural Resources Inventory. Data on this map should not be relied upon for individual lot planning.

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MAP LEGEND:

- Freshwater Wetlands**
- Forested Wetlands
 - Scrub / Shrub Wetlands
 - Herbaceous Wetlands
 - Disturbed Wetlands



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Freshwater Wetlands
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 Salem County, New Jersey

Scale: 1" = 15,000' Date: 1/15/06

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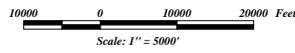
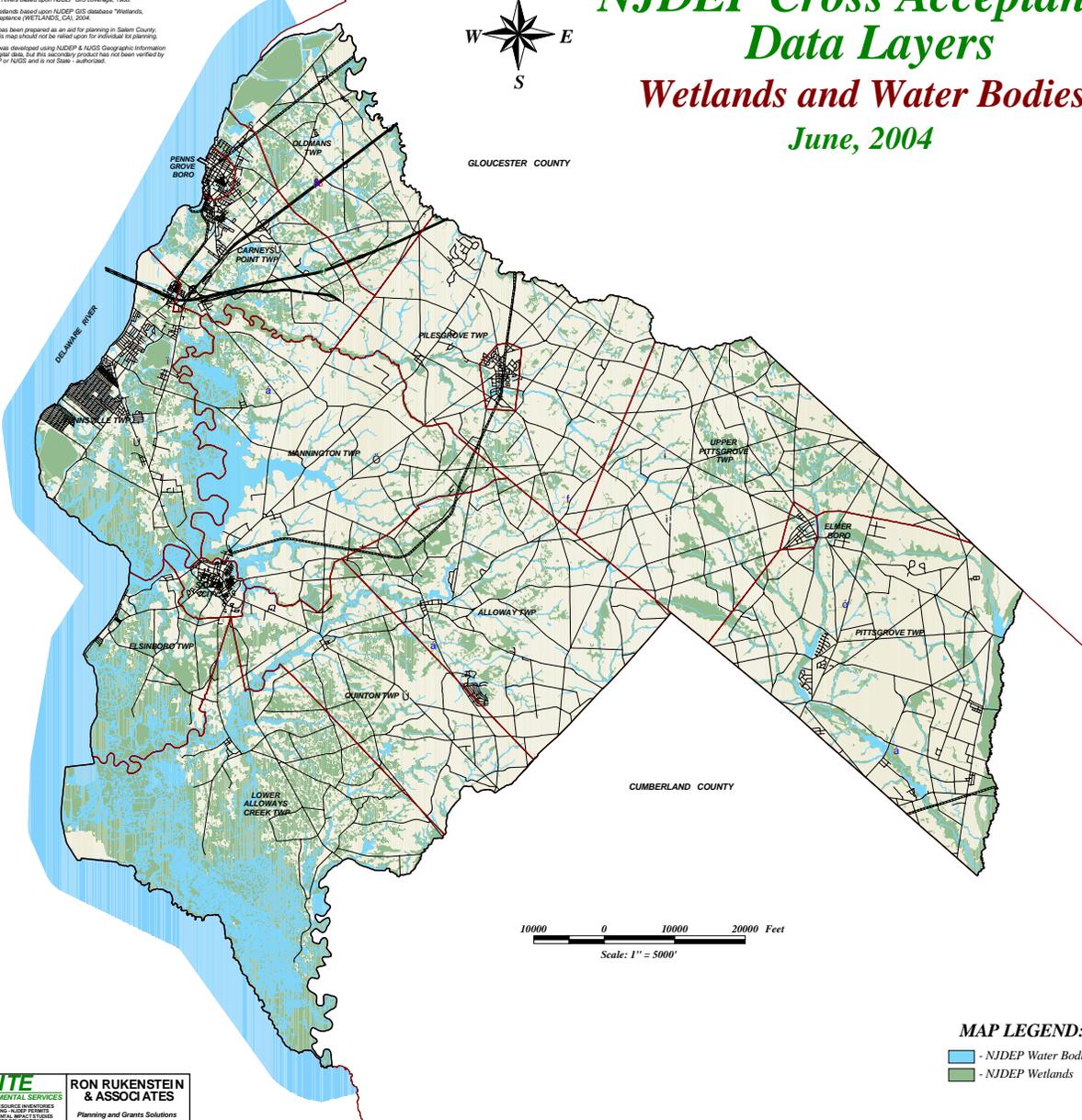
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REFERENCES & NOTES:

Parcel mapping based upon municipal tax maps as digitized by Civil Solutions, Inc. May, 2002.
Roadways shown as digitized by Civil Solutions, Inc. May, 2002.
Lakes and Rivers based upon NJDEP GIS coverage, 1988.
NJDEP Wetlands based upon NJDEP GIS database "Wetlands, Cross Acceptance (WETLANDS_CA), 2004."
This map has been prepared as an aid for planning in Salem County. Data on this map should not be relied upon for individual lot planning.
This map was developed using NJDEP & NJGIS Geographic Information System digital data, but this proprietary product has not been verified by the NJDEP or NJGIS and is not State - authorized.



NJDEP Cross Acceptance Data Layers Wetlands and Water Bodies June, 2004



MAP LEGEND:

-  - NJDEP Water Bodies
-  - NJDEP Wetlands

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REFERENCES & NOTES:

Base map mapping based upon municipal tax maps as digitized by Civil Solutions, Inc., May, 2002.
Roadways shown as digitized by Civil Solutions, Inc., May, 2002.
Lakes and Rivers based upon NJDEP GIS coverage, 1988.
Flood Hazard Areas based upon NJDEP GIS coverage of USGS Flood Hazard Mapping, 1988.
Wetlands based upon NJDEP GIS coverage of the NJ Wetlands Inventory, 1988.
This map has been prepared as an aid for planning in Salem County. Data on this map should not be relied upon for individual lot planning.
This map was developed using NJDEP & USGS Geographic Information System digital data, but this secondary product has not been verified by the NJDEP or USGS and is not State - authorized.

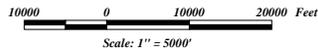
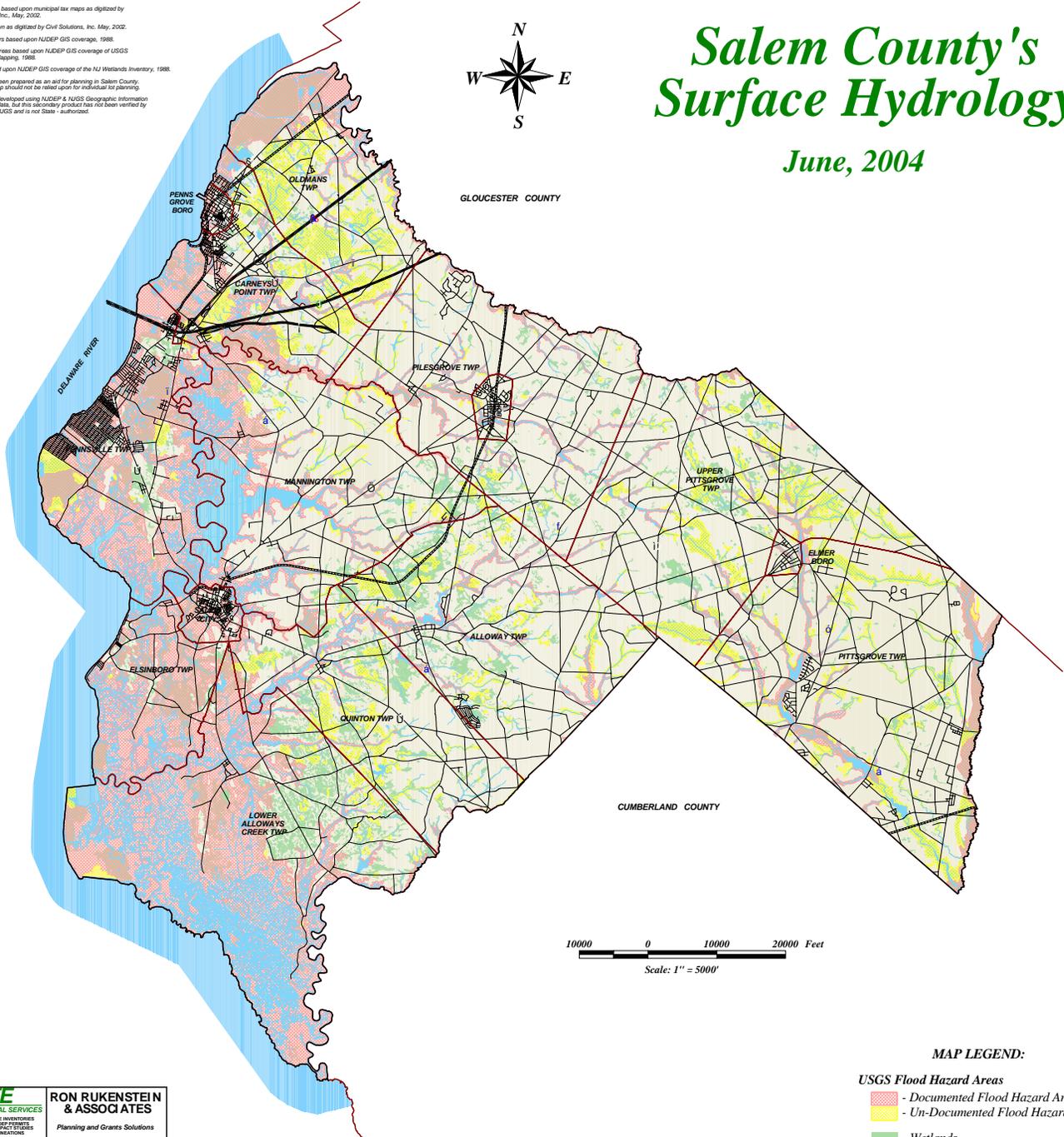
Salem County's Surface Hydrology

June, 2004



GLOUCESTER COUNTY

CUMBERLAND COUNTY



MAP LEGEND:

- USGS Flood Hazard Areas**
- Documented Flood Hazard Area
 - Un-Documented Flood Hazard Area
 - Wetlands

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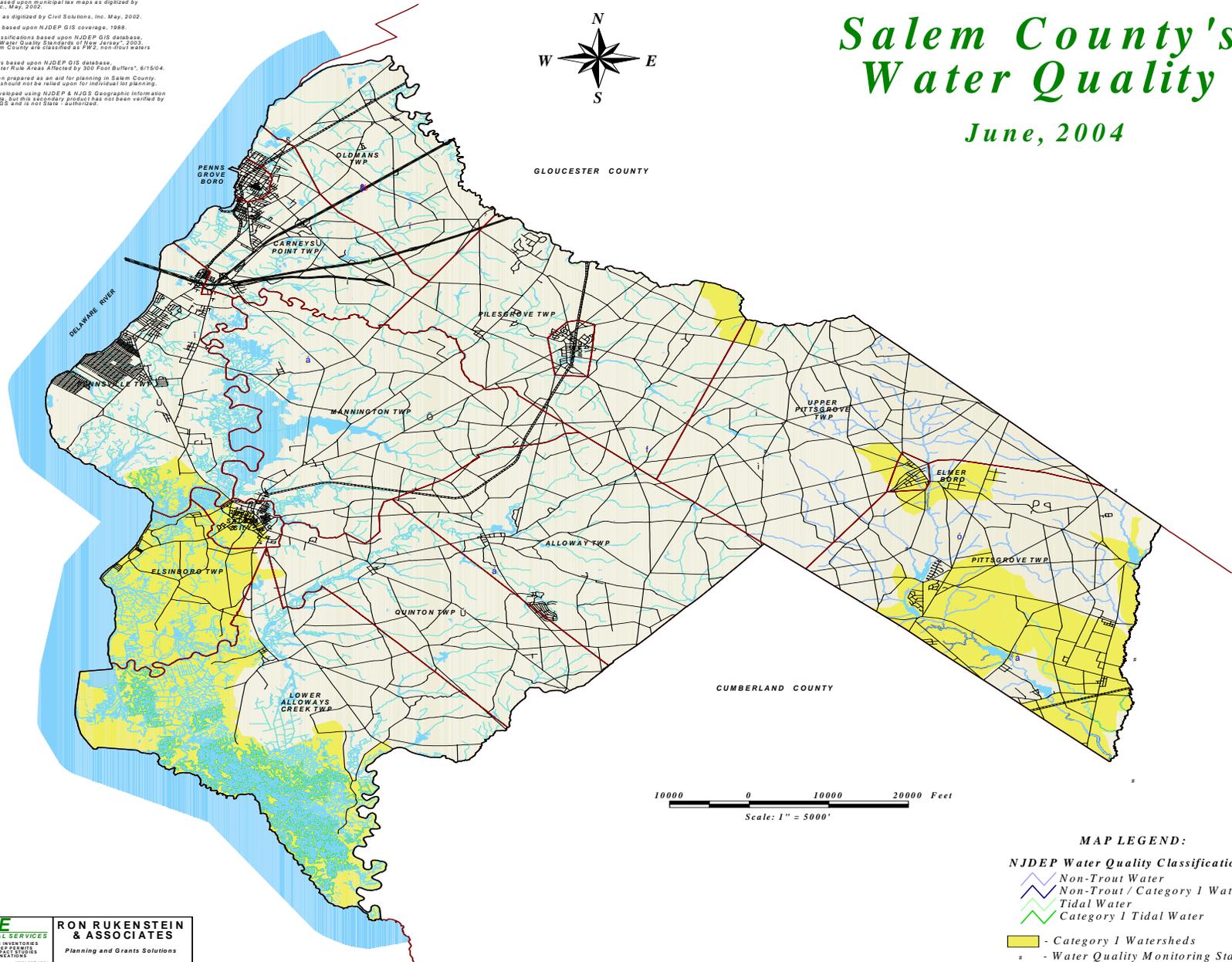
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908-732-4150

REFERENCES & NOTES:

Parcel mapping based upon municipal tax maps as digitized by Civil Solutions, Inc., May, 2002.
 Roadways shown as digitized by Civil Solutions, Inc., May, 2002.
 Lakes and Rivers based upon NJDEP GIS coverage, 1988.
 Water Quality Classifications based upon NJDEP GIS database "NJDEP Surface Water Quality Standards of New Jersey", 2003.
 All waters in Salem County are classified as PWS, non-trout waters by the NJDEP.
 Category 1 Waters based upon NJDEP GIS database "NJDEP Stormwater Run Areas Affected by 300 Foot Buffers", 8/15/04.
 This map has been prepared as an aid for planning in Salem County. Data on this map should not be relied upon for individual lot planning.
 This map was developed using NJDEP & NJGS Geographic Information System digital data. This secondary product has not been verified by the NJDEP or NJGS and is not State authorized.

Salem County's Water Quality

June, 2004



MAP LEGEND:

- NJDEP Water Quality Classifications**
- Non-Trout Water
 - Non-Trout / Category 1 Water
 - Tidal Water
 - Category 1 Tidal Water
- Category 1 Watersheds
- Water Quality Monitoring Stations

<p>WHITE ENVIRONMENTAL SERVICES NATURAL RESOURCE SERVICES ENVIRONMENTAL IMPACT STUDIES GIS MAPPING - NJDEP PERMITS REGULATORY COMPLIANCE</p>	<p>RON RUKENSTEIN & ASSOCIATES Planning and Grants Solutions</p>
	<p>845 Bankside Road P.O. Box 1 (908) 887-1331 Philadelphia, PA 19104 480-3080-0000 (ext) 1331 P.O. Box 1 (908) 730-8138 Truckee, NJ 08560 Fax: (908) 730-8138</p>