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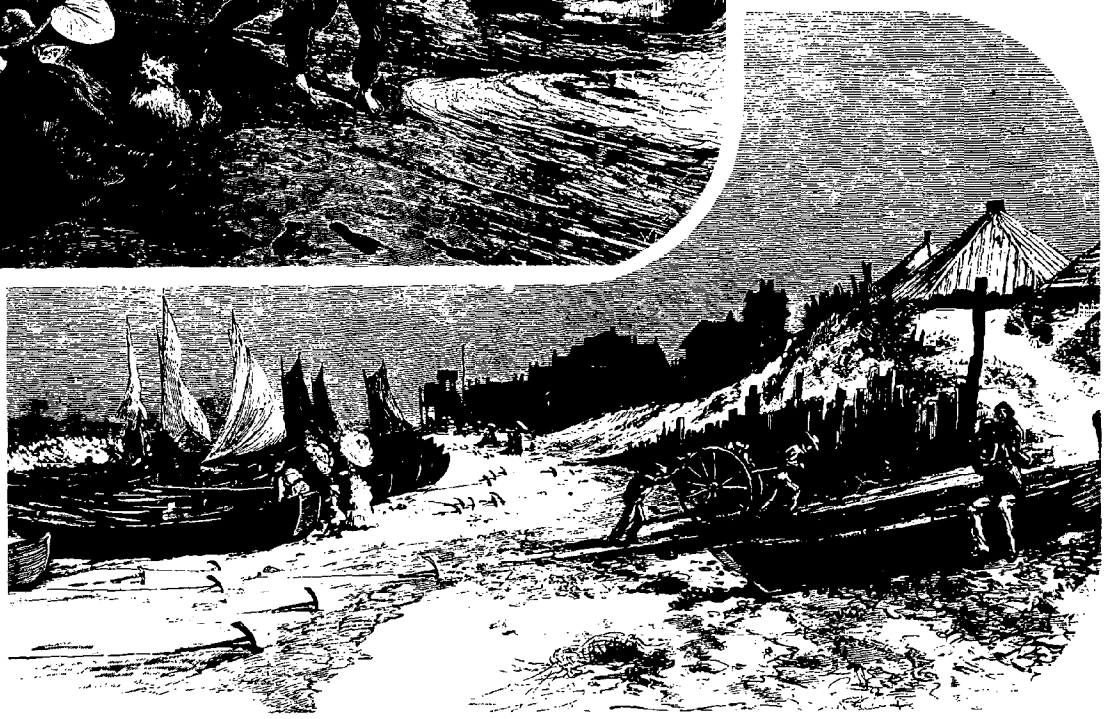

The Changing Shoreline:
Managing the Coastal Region

Monmouth County, New Jersey

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Prepared by the Monmouth County Planning Board, October, 1978

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THE CHANGING SHORELINE: MANAGING THE COASTAL REGION

MONMOUTH COUNTY, NEW JERSEY

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Prepared By:

The Monmouth County Planning Board
One Lafayette Place
Freehold, New Jersey

October 31, 1978

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INTRODUCTION

Since 1970 a growing interest in environmental planning and conservation, in general, has generated federal and state legislation for the protection and management of the nation's coastal regions. Significant legislation has included the Federal Coastal Zone Management Act of 1972 and the New Jersey Coastal Areas Facility Review Act (CAFRA) of 1973.

The Office of Coastal Zone Management (OCZM), within the New Jersey Department of Environmental Protection (N.J.D.E.P.) is responsible for the planning and implementation of coastal zone management plan in New Jersey.

As a part of the coastal zone planning in New Jersey, the D.E.P. has contracted with the eleven (11) coastal counties to perform certain elements of the planning process. This planning program is called the State-County Coastal Coordination Project and involves three (3) major elements. First, the county was responsible for reviewing the state's evolving coastal management program and for recommending county-specific revisions and additions. Second, the study counties had to make recommendations to improve the decision-making process. Lastly, the counties were to promote intergovernmental coordination and public participation by serving as a county coastal clearinghouse to the public and officials from each municipality in each county and by submitting comments and recommendations on specific coastal permit decisions pending before the DEP's Division of Marine Services.

To fulfill the major portion of our contract, the Monmouth County Planning Board has prepared this report. In it are both general and specific recommendations on how the coastal zone management plan can best be implemented. Also included are ways in which local municipalities can change their local master plans and/or zoning and land use ordinances to better protect and regulate building activity within the coastal zone.

It is hoped that this report will generate a meaningful debate and dialogue between all levels of government (state, county and local) and will enable the development of an equitable and efficient plan for coastal zone management in Monmouth County.

I. county character

GEOGRAPHY & GEOLOGY

Physical Location

Monmouth County is located in East Central New Jersey between longitudes 73°58' and 74°37' west and latitudes 40°5' and 40°29' north. It covers 471.57 square miles in area and is the sixth largest County in New Jersey. This figure includes land area only. No exact figure is available for water area, but it is estimated at approximately 59 square miles by Leo E. Jablonski (Ground-Water Resources of Monmouth County, New Jersey: U.S.G.S., 1968, pg. 4).

Monmouth County is bordered on the north by Raritan and Sandy Hook Bays, in the west by Mercer and Middlesex Counties, on the south by Burlington and Ocean Counties and on the east by the Atlantic Ocean. New York City is 20 miles to the north across Raritan Bay and Philadelphia is 75 miles to the southwest of the County (Figure 1).

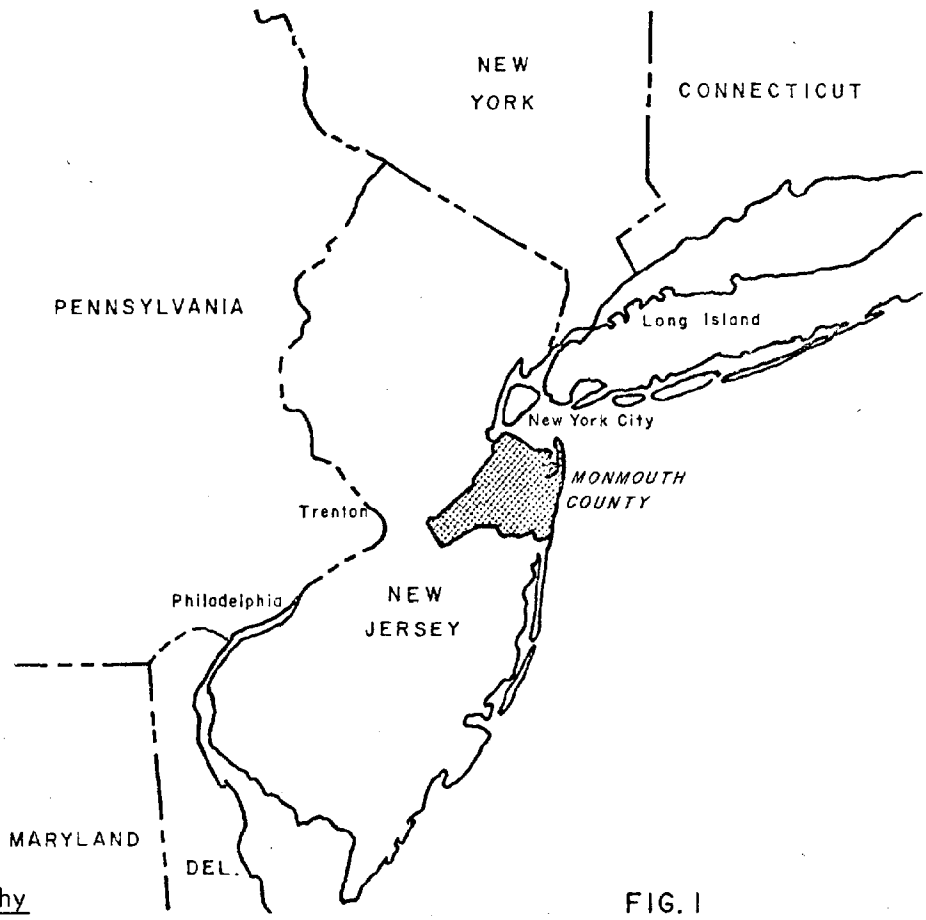


FIG. 1

Topography

Monmouth County lies within the Atlantic Coastal Plain Physiographic Province. The topography of the County is characterized by a prominent belt of hills flanked by lowlands and less prominent hills. This prominent belt of hills marks the division between the inner and outer coastal plain in Monmouth County (Figure 2). These hills, as well as smaller groups of hills

in the County, are able to maintain their posture largely because they are slightly more resistant to erosion than surrounding sediments. Although no sediments in the County are consolidated in the strict sense, some strata are composed of marls and clayey sands and offer more resistance to erosion than sands do. Thus, differential erosion has formed the surface features that are seen in Monmouth County today. Also some beds or strata of cemented "ironstones" or sands occur in places and offer considerable resistance to erosion.

The most prominent landform in the County is a ridge, known as the Mount Pleasant Hills, which extends from Keyport southwest to Imlaystown and south into Ocean County. These hills also extend eastward from Keyport to the Navesink Highlands. In the Highlands the hills rise abruptly from sea level to a maximum elevation of 266 feet. From the Highlands westward the Mount Pleasant Hills range in elevation from 200 feet at Chapel Hill, Middletown, to 380 feet at Crawford Hill in Holmdel. Crawford Hill is the highest point in Monmouth County.

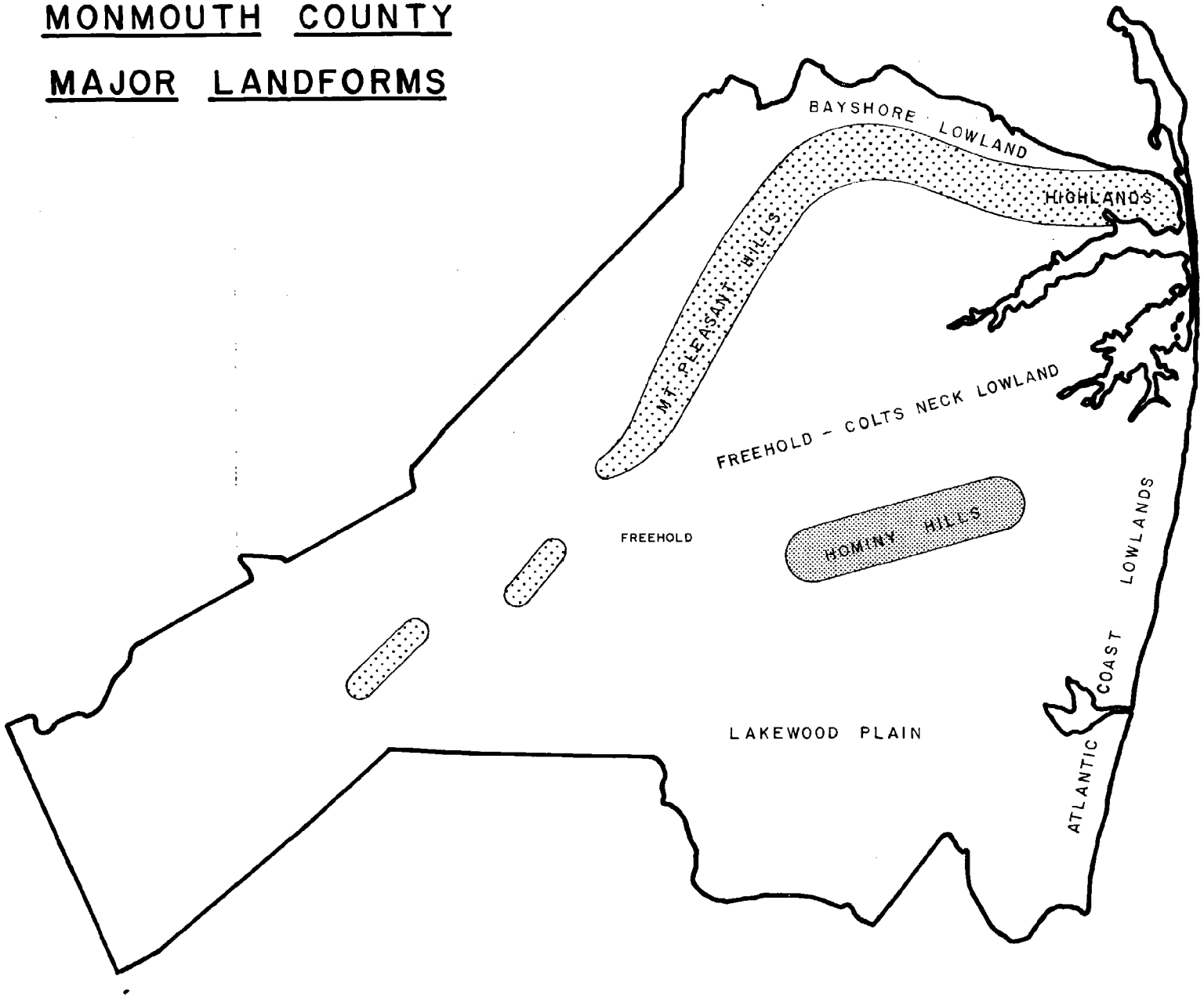
West, southwest of Keyport the hills decrease in elevation to about 200 feet near Morganville. West of Morganville the land is hilly buy generally less than 100 feet in elevation. Southwest of Keyport the Mount Pleasant Hills become less prominent and the elevations decrease to 140 to 200 feet just west of Freehold. Near Perrineville the belt again is expressed as a series of hills which rise to nearly 360 feet in elevation. Near Clarksburg several hills range between 250 and 320 feet in elevation, however, west of Imlaystown the relief again flattens out (as it does west of Morganville) and the hills only range up to 100 feet or so in elevation. The hills near Clarksburg are appropriately known as the Clarksburg Hills.

South of Freehold the topography is undulating with few prominent hills. Stone Hill (off Stone Hill Road, Freehold Township) has an elevation of 180 feet and another hill just out of the County has a maximum elevation of 193 feet.

The remainder of the County is characterized by lowlands and plains with the exception of a group of hills which stretch from Colts Neck nearly to Eatontown. This group is called the Hominy Hills and elevations range from near 200 feet to 307 feet on the NAD Earle Reservation. The Hominy Hills divide two lowlands; the Lakewood Plain to the South and the Freehold-Colts Neck lowland to the north. The Freehold-Colts Neck lowland extends from Freehold northeastward along the Hominy Hills to the Atlantic Coast lowlands. The Freehold-Colts Neck lowland has an elevation of some 160 feet near Freehold and drops to sea level at the head of the Shrewsbury River. The northern boundary of this lowland is ill-defined as it merges with the southern slope of the Mount Pleasant Hills in Holmdel and Middletown.

South of the Hominy Hills is the other lowland called the Lakewood Plain. This lowland reaches down into Ocean County and ranges from the eastern flank of the Mount Pleasant Hills south of Freehold to the Atlantic Ocean on the east. This lowland is somewhat higher in elevation that the Freehold-Colts Neck lowland.

MONMOUTH COUNTY
MAJOR LANDFORMS



PREPARED BY THE MONMOUTH COUNTY PLANNING BOARD 12/74

FIG. 2

The Atlantic coast portions of the County are characterized mainly by sandy beaches and with the exception of the Highlands of the Navesink, by adjacent lowlands. Elevations of only 30 feet are found in western Long Branch and in Rumson, Fair Haven and Wall Township. If sea level were to rise by fifty feet some three to four miles of the eastern part of the County would fall be neath the water. Only a few isolated hills would extend above the sea between the present Shrewsbury and Navesink Rivers, and all of Sandy Hook, Sea Bright and the Bayshore would be covered by water.

If sea level were to rise by 100 feet (or if the land were to subside), the shoreline of the County would consist of deeply embayed peninsulas and coastal islands. The only substantial landforms would be the Hominy Hills and the Mount Pleasant Hills. Major landforms are shown on Figure 2.

From the above discussion, it is evident that although Monmouth County has a varied landscape of lowlands, plains and hills, relatively few areas rise more than a hundred feet or so and the entire County is characterized as coastal plain in nature.

Drainage Patterns

The Mount Pleasant Hills essentially divide drainage in the County into three directions. To the west of the Hills streams flow into the Delaware River and Raritan River basins. To the north of the Hills, streams empty into the Raritan and Sandy Hook Bays and to the east streams and rivers flow east to the Atlantic Ocean and in the case of the north branch of the Metedeconk River, into Barnegat Bay. Major drainage is to the east, however, and the Hominy Hills further separate flow to the north into the Swimming River watershed and to the south into the Shark River and Manasquan River watersheds (Figure 2).

Major streams flowing to the Delaware River are Crosswicks Creek, Doctors Creek and Assunpink Creek. Streams flowing into the Raritan River Basin are the Deep, Manalapan and Matchaponix Brooks and Millstone River. The Navesink and Shrewsbury Rivers, Comptons Creek and Chingarora and Matawan Creeks all flow into Raritan and Sandy Hook Bays,and the Shark and Manasquan Rivers flow into the Atlantic Ocean. All streams except Crosswicks Creek have their headwaters in Monmouth County and flow outward. This also includes Toms River and the north branch of the Metedeconk River. Stream patterns are for the most part symmetrical and of the dendritic type. This means that the streams (if viewed from the air) resemble tree root systems and that feeder streams are nearly equally distributed on both sides of the main stream. This type of stream pattern in Monmouth County is controlled by the erosion pattern discussed in the previous section. Streams and their watershed areas are listed in Appendix A.

Numerous small ponds lie near the Atlantic Coast of the County. Originally, these ponds were small streams that flowed directly to the Ocean. Over the years movement of sand along the coast (littoral drift), as well as deliberate filling in by man, has caused blockage of many of the stream mounts, thus creating the small ponds. Poplar Brook and Wreck Pond, nevertheless, still have some communication with the sea, however, slight.

General Geology

The Atlantic Coastal Plain physiographic province, of which Monmouth County is a part, is underlain by unconsolidated sediments of Mesozoic and Cenozoic age. For long periods of geologic time, this coastal plain existed as a shallow shelf and received sediments from the eroding Appalachian Mountains. These eroding particles of silt, sand and clay were washed onto this shelf area, which then periodically subsided under the weight of the sediments. Consequently the shelf area closest to the then shoreline filled in and new sediment was carried down to the next subaqueous zone. In this manner a thick wedge of sediments was formed which now constitutes the coastal plain and continental shelf. The thickness of the coastal plain sequence in the County ranges from 500 feet in the northwestern part of the County to more than 1200 feet in the southeastern part. Offshore (on the outer continental shelf) these sediments increase in thickness to more than ten thousand feet.

The coastal plain sediments in Monmouth County are of marine and continental origin and are composed mainly of sands, silts and clays and greensands or glauconitic sands with interspaced gravel beds. Strata of iron-cemented sandstone are locally present. A thin veneer of sand, clay and gravel deposits of more recent age overlie the older coastal plain sediments. This layer is of Quaternary age (less than one million years old) and was deposited by outwash or meltwater from the glacial ice that covered all land as far south as northern New Jersey.

The eroded surfaces of the Mesozoic and Cenozoic coastal plain sequence are exposed at the surface in bands trending northeast-southwest. These sands can be seen on the geologic map of Monmouth County and represent cross-sections of strata dipping to the southeast at 25-60 feet per mile.

Stratigraphy

The Cretaceous and Tertiary sediments which make up the coastal plain sequence vary in thickness and many of the formations increase in thickness downdip. These sediments were deposited in cyclical transgressive and regressive patterns. In the Cretaceous Period, the Merchantville, Marshalltown, Mt. Laurel-Navesink and Tinton Formations are characterized by an abundance of glauconite and the presence of offshore type fossils. Formations containing glauconite (greensand) are usually considered to be offshore or deepwater deposits. The Magothy, Woodbury, Wenonah and Red Bank Formations are mainly nonglauconitic in composition and contain near shore or shallow water fossils. In the Tertiary sediments, the Hornerstown and Manasquan Formations are highly glauconitic and of deep-water origin. The Vincentown and Shark River sands and clays represent alternating retreats of the sea.

Soils

The soils of Monmouth County are many and varied, ranging from fertile deep soils to droughty infertile soils with little humus or organic material present. In Monmouth County the Soil Conservation Service (SCS) recognizes 43 series of soil represented by 114 types of subtypes. Detailed information on soils and soil characteristics may be obtained at the Soil Conservation Service in Freehold. This information includes percentages of soils, drainage classes, erosion factors and many other soil characteristics.

For purposes of cultivation the SCS has divided all land into eight classes according to capability for production and treatments necessary for continued production. Class I soil is the most fertile and Class VIII is the least fertile soil. Classes I, II, III are those suitable for cultivation and Class IV is marginal but adaptable for certain crops. The remaining classes are suitable for pasture or woodland. Class VIII is only suitable for wildlife uses. Soil classes are shown on Table 1.

Slope

A factor often related to soil compatibility is slope. If land is extremely flat, water will tend to collect after a rain and not run off. On the other hand steep slopes will raise the erosion potential of the land and limit its use. The SCS has divided slopes in Monmouth County into six classes. These slope classes are shown in Table 2. In Monmouth County 90 percent of the land has less than a 10 percent slope and 75 percent has less than a 5 percent slope. In general, poorly drained soils have less than a 2 percent slope and the Colts Neck, Evesboro and Navesink soils tend to be in steeper areas.

Table I - Soil Classes in Monmouth County

Class I	Very good land that is easily cultivated with ordinary liming, fertilizing, etc. Level, well-drained and easily worked.
Class II	Good land safely cultivated with easily applied practices. Some areas are droughty or may have imperfect drainage.
Class III	Moderately good land that can be cultivated with intensive practices. Lowland areas often require drainage. Upland areas subject to moderate to severe erosion.
Class IV	Fair land best suited to pasture and hay. Lowland areas require intensive drainage for successful cultivation.
Class V	Not recognized in Monmouth County.
Class VI	Suitable for grazing or forestry only.
Class VII	Useful for forestry only.
Class VIII	Land that is so steep, rough, sandy, wet, or severely eroded that it is best suited for wildlife.

Table 2 - Slope Classes in Monmouth County

A	*-2%	Nearly flat slopes, little or no danger of erosion
B	2-5%	Slopes moderately subject to erosion under clean cultivation
C	5-10%	Under tillage, slopes greatly subject to erosion but controllable with suitable practices.
D	10-15%	Slopes extremely subject to erosion under cultivation
E	15-25%	Slopes extremely subject to erosion under cultivation and not controllable under such use. Sod cover will protect soil.
F	25 + %	Soils best protected by being kept in woodland.

*A one percent slope = a drop of 1 foot in 100 feet of horizontal distance

Acid Soil

Acid soil is found in many areas of Monmouth County and is considered to be a serious soil situation. The acidity is caused by a pyrite content. Upon exposure to air sulphuric acid (H_2SO_4) is formed, killing or adversely affecting fish and plant life. The construction depth of acid soil in Monmouth County is from 4-16 feet with an extreme of 50 feet which has been hit in NWS Earle. An area in the northern section of the County where the acid formation is near the surface has resulted in many problems including the inability to establish grass or ornamental plantings and serious erosion.

Acid soil seems to be limited to the Woodbury, Englishtown, Wenorah, Marshalltown and Navesink Formations. The Monmouth County Planning Board and the Soil Conservation Service, Freehold District, have maps showing locations where acid soil has been exposed in Monmouth County.

WATER RESOURCES

Watersheds and Stream Flow

The United States Geological Survey takes detailed surface water measurements of selected streams in Monmouth County. The streams continuously monitored are Swimming River, Shark River and the Manasquan River.

Table 3 - Concentration Ranges of Impurities in Monmouth County Groundwater

	Range PPM*		Recomm. Limit
	Low	High	
Silica (SiO_2)	Trace	45	--
Iron (Fe)	0	33	0.3
Calcium (Ca)	1.4	40	--
Magnesium (Mg)	15	41	--
Sodium (Na)	0.9	18	--
Potassium (K)	1.0	9.0	--
Bicarbonate (HCO_3)	0	140	--
Sulfate (SO)	0	38	250
Chloride (Cl)	0	164	250
Fluoride (F)	0	0.6	1.0
Nitrate (NO_3)	1	1	10
Hydrogen Sulfide (H_2S)	N.A.	N.A.	--

*After Jablonski (1968)

Sources of Groundwater Supply

The main source of groundwater withdrawals in Monmouth County are wells piercing the Raritan and Magothy Formations and the Englishtown Formation. Aquifers in these formations supplied 76 percent of the total groundwater withdrawals in the County in 1958 (Jablonski, 1968). For a more detailed description of these formations please refer to the section on their stratigraphy. Table 4 shows thickness, pumpage and water-bearing characteristics for the major aquifers in Monmouth County.

The Raritan and Magothy Formations may be in hydrologic connection with the Atlantic Ocean and development could be limited by the threat of saltwater encroachment (Jablonski, 1968). There is some indication that this is already occurring in the southeastern part of the County, especially in the lower part of the aquifer. With increasing development and increased pumping along the coastal regions, this problem will be aggravated and alternate sources of potable will have to be developed.

The most favorable areas to develop the Englishtown Formation and Mount Laurel Sand for water supply is in their outcrop areas southwest of Sandy Hook Bay where the threat of salt-water encroachment is less. It must be noted, however, that due to the drop in water from overpumping the Englishtown Formation is closed to further development for individual wells for water supply. Other aquifers that may be developed further are the Red Bank Sand in areas near surface ponds or streams that may be in hydrologic connection with the aquifer; the Vincentown Formation in outcrop areas and away from the Atlantic Ocean where there may be a threat of saltwater encroachment; the Kirkwood Formation in areas where it is of a sufficient thickness and in a saturated state. It should be noted that the Kirkwood Formation is the principal water-table aquifer in the southeastern part of the County and, as in the case of the Raritan and Magothy Formations, over pumping will accelerate salt-water encroachment.

There are eight major watersheds in Monmouth County. These are Swimming-Navesink River, Shark River, Manasquan River, Crosswicks Creek, Doctors Creek, Manalapan Brook, Millstone River and the North Branch of the Metedeconk River. These major drainage basins can be broken down into smaller units as several brooks may make up one river or large stream and each one has its own drainage area.

In addition to stream flow data, the Geological Survey has published data on the chemical and physical characteristics of surface water. Water quality data includes chemical, temperature and sediment measurements. Typical chemical measurements include dissolved silica, iron, manganese, calcium, magnesium, sodium, potassium, alkalinity, sulfate, chloride, nitrate, hardness and non-carbonate hardness. In addition, measurements are taken in specific conductance, pH, color, dissolved oxygen, biochemical oxygen demand (BOD), carbon dioxide, fecal coliform, streptococci coliform (in colonies/100 ml) and total inorganic carbon.

Ponds and Lakes

Numerous small lakes and ponds are found in Monmouth County. These water bodies are natural and man-made. A number of ponds lie near the Atlantic Coast and are a product of naturally dammed streams. Such water bodies are Deal Lake, Lake Como, Wreck Pond and Stockton Lake. Many other streams were dammed to supply water to saw and grist mills in the 18th and 19th centuries. In addition, the Soil Conservation Service (SCS) has over the years assisted construction of ponds and lakes on farms and industrial and research establishments. Some of these SCS assisted projects are for irrigation purposes while others are for fire protection and recirculation water for air conditioners. The total number of ponds and lakes in the County exceeds 800 or more than one per square mile on a county-wide basis.

Reservoirs

There are at present only two major reservoirs for public drinking water supply in Monmouth County. These two are Swimming River and Glendola Reservoirs. The first of these supplies has been developed on the Swimming River Road, a tributary of the Navesink River. It is located upstream of Swimming River Road and the original reservoir was constructed in 1901. In recent years it was enlarged to provide a capacity of 2.6 billion gallons. The drainage area at the reservoir is 48 square miles.

The second reservoir is in the Glendola area of Wall Township and is operated as an off-river storage facility to provide storage for flows pumped from Shark River and Jumping Brook. The Glendola reservoir has a capacity of 1.0 billion gallons (E.T. Killam Associates, 1970). In addition, land has been acquired for a reservoir system on the Manasquan River. The first phase of this project will provide 10 million gallons per day (MGD) and the ultimate potential is estimated at 35 MGD).

Groundwater

Groundwater in Monmouth County is generally of high quality but may contain silica, iron, calcium, magnesium, sodium, potassium, bicarbonate, sulfate, chloride, fluoride, nitrate and hydrogen sulfide all in a dissolved or semi-dissolved state. Table 3 shows concentration ranges in parts per million (ppm) of various impurities.

Table 4 - Thickness, Pumpage, and Water-Bearing Characteristics of Major Aquifers in Monmouth County

Aquifer	Thickness (feet)	Pumpage (mgd)	Water-Bearing Characteristics
Raritan and Magothy Formations	25-70	12.3	Most important aquifers. Yields range from 100 - 1400 gpm.
Englishtown Formation	30-50	4.0	Yields average 25 gpm. Large capacity wells average 410 gpm.
Wenonah Formation Mount Laurel Sand	30-50	.065	Considered a single aquifer. Average yield 10 gpm. Maximum reported yield 335 gpm.
Red Bank Sand	40	---	Yields range from 3 to 30 gpm to domestic wells.
Vincentown Formation	50-110	---	Important source for domestic wells. Yields range from 10 to 50 gpm.
Kirkwood Fromation	0-79	1.5	Yields range from 15 to 1200 gpm. Water usually contains iron, sulfide and is acid.

After Jablonski (1968).

ECONOMIC BASE

Labor Force and Employment

In 1970 the total labor force of Monmouth County was recorded at 179,400. Future labor force estimates are given in Table 5 below.

TABLE 5

	Population	Labor Force		Participation
		Total	Civilian	Rate
1950	225,300	94,300	86,000	38.2%
1960	334,400	128,300	120,600	36.1%
1970	461,800	179,400	169,600	36.7%
1975	513,000	---	209,300	41.0%
1980	577,000	---	252,500	43.8%
1985	650,000	---	292,700	45.0%
1990	675,000	---	305.500	45.3%

SOURCE: Port Authority of New York and New Jersey, People and Jobs, 1974; U.S. Census of Population, 1970

Unemployment

Unemployment in Monmouth County decreased steadily as a result of general New York area growth and development in Monmouth County between 1958 and 1968. Since 1968, unemployment rose to its present level of 8.8% in the 1974-75 recession. The figure used is that of the New Jersey Department of Labor and Industry, which represents an adjustment for seasonal employment.

Uemployment reaches its height in the slack winter season and decreases until the peak of September harvesting activity.

Occupational Groups

The 1970 Census registers 162,759 persons employed among the eight occupational categories used by the Census. This figure refers to persons who live in Monmouth County, but who may be employed outside the County. The occupational group breakdown for 1970 is as follows by percent: professional and technical, 19.7%; managerial and administrative; 11.0%; sales and service, 20.8%; clerical, 17.0%: craftsmen and foremen; 13.4%: operatives, 13.6%; nonfarm laborers, 3.8%; and farm workers, 0.7%.

Employment

In 1974 employment in Monmouth County totalled 163,200. This figure represents the persons who work in Monmouth County but may live outside the County. This figure is expected to rise to 199,600 by 1980-a 22.3% increase. The 1974 employment breakdown by industry group is as follows:

government, 19.2%; services, 17.5%; trade, 17.3%; manufacturing, 16.4%; other nonfarm, 15.2%: construction, 4.9%; transportation, communications and utilities, 4.1%; finance, insurance and real estate, 2.9%; and agriculture, 2.4%.

The major Monmouth County employers are as follows: Fort Monmouth, 11,164; Bell Telephone Laboratories Inc., 4000; Jersey Central Power & Light Company, 3601; State of New Jersey, 2483; Monmouth County, 1467; U.S. Government Post Offices, 1337; U.S. Naval Reservation (Earle), 1119; Lily Division, Owens Illinois Inc., 1072; Middletown Township Board of Education, 1034; Midland Glass Company, 1020: Monmouth Park Jockey Club, average 987. The figures for government institutions are as of 1972. Private industry figures are as of 1975.

Employment within the 53 municipalities varies considerably, as is recorded in Table 2 below for 1972, compiled from the 1972 Economic Census.

Table 6

Allenhurst	511	Manasquan	1,683
Allentown	501	Marlboro Twp.	3,687
Asbury Park	10,457	Matawan Boro	2,303
Atlantic Highlands	1,055	Matawan Twp.	3,989
Avon-By-The-Sea	1,260	Middletown Twp.	9,316
Belmar	2,109	Millstone Twp.	41
Bradley Beach	758	Monmouth Beach	410
Brielle	780	Neptune City	1,981
Colts Neck Twp.	2,589	Neptune Twp.	7,600
Deal	539	Ocean Twp.	5,098
Eatontown	9,334	Oceanport	3,328
Englishtown	512	Red Bank	7,593
Fair Haven	525	Roosevelt	41
Farmingdale	975	Rumson	868
Freehold Boro	7,006	Sea Bright	696
Freehold Twp.	6,093	Sea Girt	531
Hazlet Twp.	3,201	Shrewsbury Boro	2,394
Highlands	970	Shrewsbury Twp.	6
Holmdel Twp.	9,793	South Belmar	520
Howell Twp.	4,735	Spring Lake	754
Interlaken	11	Spring Lake Heights	633
Keansburg	1,259	Tinton Falls	9,671
Keyport	3,213	Union Beach	1,201
Little Silver	1,387	Upper Freehold Twp.	565
Loch Arbour Village	0	Wall Twp.	6,025
Long Branch	7,081	West Long Branch	2,942
Manalapan Twp.	1,885		

Commutation

The 1970 Census reveals that 26.9% of the total labor force, or 48,343 persons, commute to jobs outside Monmouth County. (In 1975 the number of commuters, using the same 26.9%, would be 59,550.) Also,

approximately 29,897 persons commute into Monmouth County, resulting in a net out-migration of 18,446 persons in 1970.

INCOME

Monmouth County Personal Income Level

The 1970 Census disclosed that Monmouth County as a Standard Metropolitan Statistical Area ranked 25 out of 263 in per capita income, with $3,627. The U.S. per capita income level in 1970 was $3,119. The Tri-State Regional Planning Commission has projected a 1985 per capita income level of $5,289 in constant 1969 dollars.

The 1970 median family income for Monmouth County was $11,635, which ranked 22 out of 263 S.M.S.A.'s, while the U.S. median family income in 1970 was $9,586.

Municipal Income Level

Median family income, a widely used indicator of relative affluence, should provide a useful comparison among municipalities. Table 3 presents the median family income for municipalities in 1970.

Table 7

Allenhurst	$12,176	Manasquan	$11,142
Allentown	11,434	Marlboro Twp.	14,684
Asbury Park	6,973	Matawan Boro	12,343
Atlantic Highlands	11,726	Matawan Twp.	13,280
Avon-By-The-Sea	9,526	Middletown Twp.	13,216
Belmar	9,245	Millstone Twp.	11,261
Bradley Beach	7,343	Monmouth Beach	12,847
Brielle	14,254	Neptune City	9,606
Colts Neck Twp.	17,618	Neptune Twp.	10,242
Deal	18,353	Ocean Twp.	13,609
Eatontown	10,065	Oceanport	12,585
Englishtown	9,366	Red Bank	9,982
Fair Haven	15,794	Roosevelt	15,630
Farmingdale	10,916	Rumson	18,685
Freehold Boro	11,127	Sea Bright	9,571
Freehold Twp.	13,906	Sea Girt	16,230
Hazlet Twp.	12,446	Shrewsbury Boro	16,230
Highlands	8,874	Shrewsbury Twp.	8,290
Holmdel Twp.	17,445	South Belmar	8,799
Howell Twp.	10,915	Spring Lake	14,999
Interlaken	19,922	Spring Lake Heights	10,414
Keansburg	8,567	Tinton Falls	13,239
Keyport	10,080	Union Beach	9,354
Little Silver	17,704	Upper Freehold Twp.	9,949
Loch Arbour Village	13,666	Wall Twp.	10,926
Long Branch	8,951	West Long Branch	13,748
Manalapan Twp.	14,532		

Another indicator of municipal fiscal well-being is the percent

of families under the poverty level. Even wealthier communities will often have a low income neighborhood. In 1970 the municipalities with over 10% of all families under the poverty level ($3,721 for a family of four) were South Belmar, Asbury Park, Sea Bright, Bradley Beach, Keansburg, Shrewsbury Township and Highlands Borough. The communities with a low (2% or less) level of poverty were Loch Arbour, Shrewsbury Borough, Atlantic Highlands, Monmouth Beach, Spring Lake and Interlaken.

Consumer Price Index

The Consumer Price Index is the central indicator of the cost of living. For the New York and Northeastern New Jersey area, the index rose from 119.0 in 1970 to 154.8 in 1974, which represents an increase in living costs of 30%. From 1973 to 1974 alone the index rose 10.7%.

BUSINESS SECTORS

Retail and Service Trades

Total retail sales in Monmouth County amounted to $1,155.152,000 in 1972, $2,409 per capita. The business category of greatest sales was food stores, at 25.6% of the total. Automotive dealers accounted for another 17.2%, and general merchandise group stores, 14.9%.

Service sales in 1972 totalled $194,115,000 - $405 per capita. The greatest amount of sales was recorded in amusement and recreation services, which includes a sizeable share of the resort trade, at 29.2% of the total. The group of miscellaneous business services accounted for another 26.1%, and personal services, 16.0%.

The volume of retail and service trade varied substantially by municipality in 1972. The communities with the greatest volume, over $80,000,000 were Eatontown, Red Bank, Middletown, Asbury Park, Neptune Township and Freehold Township.

Tourist Trade

In a report by Stockton State College on The Economic Impact of the New Jersey Travel and Resort Industry, the tourism component of the state economy was estimated to be seven billion dollars, 4.9% of total state income and 16.5% of state employment. In 1972 it was calculated 25.8% of Monmouth County employment was directly related to tourism, and 8.6% of total Monmouth County income, or $381,250,000.

Through an analysis performed by the Monmouth County Planning Board it was found that the following types of business were most likely to be tourist oriented: seasonal hotels; concession operators of amusement devices: race tracks and riding stables; coin-operated amusement devices; fish markets; dairy stores; other amusement and recreation; candy, nut, confectionery stores; stationery stores; cigar stores; and membership sports and recreation clubs. Other business types would cater to tourists to a lesser degree.

Wholesale Trade

Wholesale trade in Monmouth County totalled $398,383,000 in 1972. The predominant category of goods was groceries and related products at 28.3% of the total. All other groups accounted for less than 9% each.

Construction

Residential construction in Monmouth County has occurred in a cyclical fashion, with peaks of 5036 units in 1965, 3883 units in 1968 and 4487 units in 1972; and bottoms of 3216 units in 1967, 2754 units in 1970, and 2596 units in 1974.

Industrial construction, on the other hand, has shown a steady decline in overall square footage completed from 905,800 in 1965 to 129,450 in 1973.

Manufacturing

In 1974, 23,400 workers or 14.3%, were employed in manufacturing. The New Jersey Department of Labor and Industry projects a 1980 manufacturing employment level of 30,400 persons.

1974 manufacturing employment was distributed in the following industrial categories: electrical machinery, 3216; apparel industry, 2786; nonelectrical machinery, 2420; chemical and allied products, 1926; rubber and plastic products, 1592; and instruments and related products, 1492. All other industries employ less than 6% each of manufacturing workers. Manufacturing employment in 1972 was scattered widely throughout the County with Holmdel as the leading manufacturing employer with 2444 workers. Freehold Township employed 1675 persons; Howell Township, 1615; Wall Township, 1559; Neptune Township, 1279; and Matawan Township, 1232 workers. All other municipalities employed fewer than 5% each of total manufacturing employment.

A study undertaken by the Monmouth County Planning Board singled out children's outerwear, women's and misses outerwear, electrical equipment, and apparel and other textile as the industrial classifications of greatest export significance.

Agriculture

In 1974, Monmouth County ranked first in soybean and cabbage production, and in number of certified nurseries in New Jersey. However, number of farms and agricultural acreage have declined considerably from 2486 farms on 139,445 acres in 1954 to 783 farms on 77,511 acres in 1974. Only soybeans, barley and cabbage have increased in production recently. The Townships of Upper Freehold, Millstone, Colts Neck, Freehold, Manalapan and Howell possess the greatest amount of farm acreage.

As with crops, livestock, dairy and poultry production have de-

creased over the years. Only horse breeding, for business and pleasure, has increased in popularity.

Commercial Fisheries

Commercial fishing has declined over the years for various reasons. In 1959 the Department of Commerce reported 27 fisheries and 64 employees. By 1966, the last date for which this information is available, only 10 fisheries were recorded, employing 28 persons.

GOVERNMENT FINANCES

Total County Revenue

In 1974, total County revenue amounted to $44,199,081,26, 76.7% of which was collected through the property tax.

Monmouth County Value of Land and Ratables

Monmouth County land value was $6,285/acre, in 1973 ranking 9 of 21 counties, according to the New Jersey Department of Community Affairs.

The value of all ratables in 1974, as recorded by the Monmouth County Board of Taxation, was $4,297,286,590. The County tax rate in 1974 was $.627912422 per $100.

Monmouth County Expenditures

19% of total expenditures went to health programs, the largest portion, and an additional 15% went to welfare. Following these groups were education, general government, and roads and bridges at 10% each. All other categories were allotted less than 10% each.

County Government Employment

In 1972, County government employment averaged 1467 persons. 60.9% of these worked in Freehold Borough, the County Seat.

Municipal Revenue

Municipal revenue is obtained from various sources, with property taxes accounting for about 72% of all municipal revenue. In 1973, a total of $226,811,938 in revenue was collected among the 53 municipalities. In general, the more urbanized towns and cities derive a greater share of their receipts from non-property tax sources than do the less urbanized areas.

Municipal Land Value and Assessments

Monmouth County land value varies drastically among municipalities with the highest value, $82,347/acre in Sea Girt, and the lowest value $487/acre in Upper Freehold Township for 1973. (These figures were prepared by the New Jersey Department of Community Affairs, and reflect

the value of assessed land after it has been equalized to take into account the difference in assessed to true land value.) Other communities of high land value ($30,000 and up/acre) are the boroughs of Avon, Manasquan, South Belmar, Spring Lake, Deal, Loch Arbour, Asbury Park, Red Bank and Belmar, while low land value (up to $5000/acre) can be found in the municipalities of Millstone Township, Roosevelt, Manalapan Township, Marlboro Township, Freehold Township, Holmdel Township, Colts Neck Township, Howell Township and Tinton Falls.

The categories of land found in tax assessment records are vacant, residential, farmland, commercial, industrial and apartment and each municipality differs in the percentage of land in these categories.

Vacant land assessments are lowest in the communities of Fair Haven, Red Bank, Allenhurst, Bradley Beach, Interlaken and Neptune City. The greatest percentage of vacant land assessments are found in Shrewsbury Township and Millstone Township.

Residential land assessments are lowest in Eatontown, Shrewsbury Township, Asbury Park and Upper Freehold Township. They are highest in Fair Haven, Rumson, Interlaken and Sea Girt.

Most communities in Monmouth County have little or no farmland. However, the following townships still rely on farmland assessments as a considerable proportion of the total: Upper Freehold, Millstone, Colts Neck and Howell.

Commercial valuation is a low percentage in the communities of Holmdel Township, Shrewsbury Township, Deal, Interlaken and Roosevelt. At the other end, Eatontown, Oceanport, Red Bank, Sea Bright and Shrewsbury Borough are highest in percentage of commercial assessment.

Industrial property, as with farmland, is lacking in many communities of limited acreage. Other municipalities, namely Holmdel Township, Union Beach, Englishtown and Farmingdale are favored with considerable percentages of industrial assessments.

Apartment assessments are a greater portion of total assessments in the communities of Long Branch, Shrewsbury Township, Asbury Park and Bradley Beach.

PROJECTED ECONOMIC PROFILE

Monmouth County is in an opportune position to enjoy an enhanced future economy, despite a generally declining economy in the New York Standard Metropolitan Consolidated Area. Much of this opportunity arises from the growth that is taking place in the County. Monmouth County has been one of the faster growing areas in the United States, and, despite the possibility of a reduction in expected population growth, should attract a fair share of future economic development.

Labor Force and Employment

The labor force will increase generally at around 1-2% annually, in step with population growth. The participation rate is expected to

rise somewhat from under 40% to 45%. At present, around 29% of the labor force commutes to other counties to work, and a similar or higher percentage of the labor force will commute out of Monmouth County in the future.

Unemployment

Unemployment will continue to exist at a higher level in New Jersey and in Monmouth County than in the United States as a whole. Programs to train the unskilled and lesser skilled workers for existing job opportunities should be increased, along with the recruiting of basic industry which would employ low skilled workers from the areas of higher unemployment in Monmouth County.

A second major group of unemployed persons represents the high-school and college graduate with no experience, who faces a tight employment field. Schools will have to better prepare the student for the job workld, or at least make certain that the student is aware of the existing job market.

Occupational Groups

The County will continue to attract persons of all occupational backgrounds, although not in the same proportions. Persons in the professional and technical, managerial and administrative, and sales and service groups should increase substantially in number, with lesser increases in the lower income occupational groups, where the higher cost of housing in Monmouth County compels many persons of lesser incomes to sell housing in Ocean County and elsewhere. A reassessment of municipal zoning provisions to assure that a variety of housing types and sizes are allowed would be a first step in providing lower cost housing for more workers.

The occupational group of farm workers should decrease in the future as more farmland is developed.

Personal Income

Monmouth County will continue to rank high in personal income relative to both New Jersey and the United States.

Trade

Employment in the trade sector should increase in step with rising personal income, especially in the services category. Builders of stores and shopping centers, however should carefully research the market to locate facilities where they are most in demand because the saturation point has been reached in many areas of the County.

The downtown shopping districts of many towns in Monmouth County have faced decline for years and it is unlikely that they will become the center of activity that they once were. Nevertheless steps can be taken to retain the attractiveness of the downtown areas. These steps are presented in detail in the 1973 Monmouth County Planning Board Shopping Facilities Study.

Resort Industry

Monmouth County resort industry is a special sector that includes certain trade and government establishments. This sector provides a major portion of County income and employment and should be strengthened through increased advertising of resort areas and rehabilitation of shore facilities where needed.

Construction

Construction had been a growth industry in Monmouth County throughout the 1960's and early 1970's. However, with the recession of 1974, (including increased taxes, interest rates, and cost of fuel and upkeep), sales of homes, and new home construction plummetted, as it did across the nation. In the future, housing starts should increase once again, although they may not reach the level of earlier "boom" years. Also, smaller houses and townhouses should become more common.

Manufacturing

Industry should expand in Monmouth County in the future as companies continue to relocate from their old locations in the New York area. Jobs for low skilled workers, in particular, are needed in Monmouth County, and it would be beneficial to the County as a whole for such employers to locate here.

Mineral Industry

Mining operations should continue at the present level in the future.

Agriculture

The rising overall costs of agriculture in New Jersey have eroded the ability of the farmer to compete with production out of state. Agriculture should continue to decline unless corrective action is taken to lower, in one way or another, the costs of farming in the State.

The 1964 Farmland Assessment Act lessened the burden of the property tax on farmland, although this measure did not completely halt the loss of farmland to development. In 1973 the Report of the Blueprint Commission on Future of New Jersey Agriculture was completed calling for the designation of permanent farmland which could be used only for agriculture. The landowner would be compensated for the development easement.

Another remedy, which could be undertaken by a municipality, if statutory enabling laws are enacted, is that of Transfer of Development Rights, wherein the municipality sets aside a special zoning district for agriculture. Development could only occur in other districts by purchasing development rights sufficient for development. The owner of farmland could then sell his rights to make a profit, yet the farmland would be preserved.

Commercial Fishing

Commercial fishing has declined considerably from its former level, as fish populations have been reduced by pollution and overfishing. The construction of new sewage treatment plants in Monmouth County, and the extension of the United States "customs waters", wherein foreign vessels are not allowed to travel, from 12 to 200 miles should serve to bolster the industry.

Government Finance

A burgeoning Monmouth County population has, in the past, required increased expenditures on services and facilities. Generally, increased costs were covered, at least in part, through revenues produced by new residents. During the 1974 recession, however, continued rising costs met taxpayer resistance, and for many municipal governments, a cutback in services or personnel was necessary. In the future, new services and facilities will have to be more carefully watched with expected revenues.

The older urban communities face a particularly difficult dilemma of providing more services to a less affluent population, while suffering a declining tax base. The means must be found to attract middle income residents and business if this trend is to be reversed. A broad-based tax would lessen the property tax burden of the older municipalities.

SPECIAL DEVELOPMENTS

Phasing Out of Government Installations

In 1970 there were almost 10,000 armed forces personnel in Monmouth County. If part or all or a major government installation were to close, (as was threatened for Electronics Command (ECOM) at Fort Monmouth in 1975 and 1976), a major economic impact could occur. If ECOM were to transfer to Maryland, it is estimated that some 34 million dollars in retail sales, 54 million dollars in personal income, and 29.6 million dollars in bank deposits would be lost to the county. An estimated 2.2 jobs would be lost for each employee transferred, and a substantial reduction in tax revenus would occur in certain municipalities.

Pressure was exerted on federal military officials by elected representatives to prevent the phase-out, with a great deal of success to date.

Freeway Construction

In the future, Routes 18 and I-195 will be completed, and Route 9 will be dualized through Howell Township. These completions could lead to further residential and commercial development which must be anticipated in the master plan and zoning ordinance. These completions should also facilitate traffic flow to summer resorts, leading to increased tourist income.

POPULATION AND LAND USE

Population

In order to facilitate various planning activities, Monmouth County, with its 53 municipalities, has been divided grographically into six designated Planning Areas. They are shown on Figure 3.

Table 8 gives population statistics from 1950 through 1970 from U.S. Census figures. Beyond 1970, they are from surveys, estimates, and projections by the Monmouth County Planning Board.

Completion of the Garden State Parkway in the early 1950's facilitated the strong population growth in Monmouth County. From 1950 to 1960, population increased 48%, from 225,327 to 343,401. From 1960 to 1970, the growth amounted to 38%, as the count reached 461,849. The 1978 estimated County population of 531,430 indicates a growth of 15.5% for the eight year period. The projected population for 1985 predicts a 46% growth over the 15-year period from 1970. By the year 2000, the population is projected to reach 890,000. This indicates a 93% growth over a 30-year period from 1970.

Summer Population

In estimating summer population, certain problems of definition arise. Summer population might include visitors spending a single day, vacationers spending a week or weekend, persons taking up summer-long residence, or some combination of these, in addition to permanent population. The United States Bureau of the Census provides no definitions or data to help clarify the issue.

The Monmouth County Planning Board has made no official estimates of summer population, however, estimates have been made by engineering and consulting firms conducting certain special studies in the County. The data derived from these estimates indicates that the County's population increases by some 100,000 to 150,000 persons during the summer months.

Estimated summer population by Municipality as developed in the aforementioned special studies is presented in Table 9.

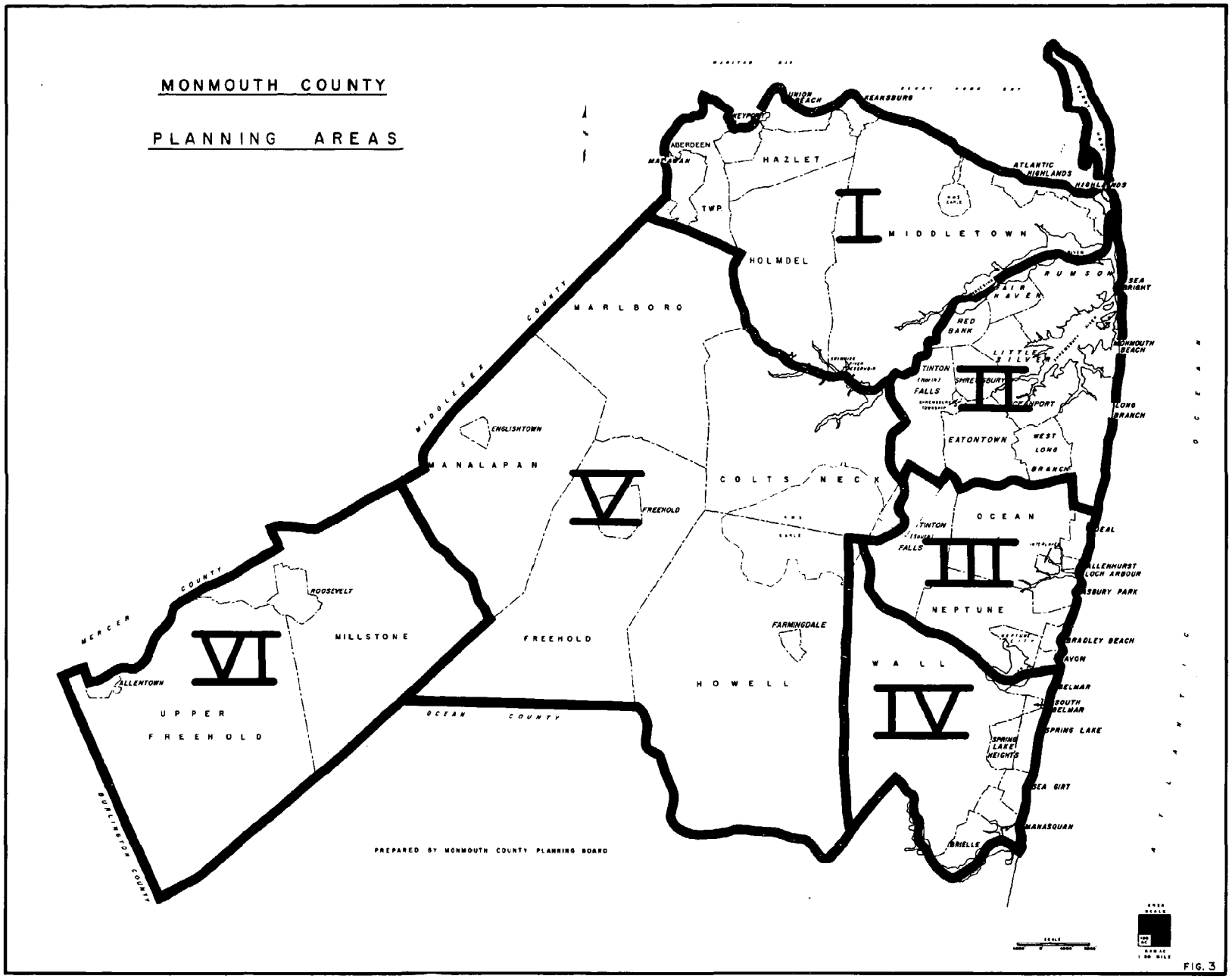

MONMOUTH COUNTY
PLANNING AREAS
I
II
III
IV
V
VI
MIDDLETOWN
HAZLET
HOLMDEL
ABERDEEN
TWP.
MARLBORO
MANALAPAN
ENGLISHTOWN
COLTS NECK
FREEHOLD
FREEHOLD
HOWELL
FARMINGDALE
WALL
NEPTUNE
OCEAN
EATONTOWN
TINTON FALLS
RED BANK
RUMSON
FAIR HAVEN
LITTLE SILVER
SHREWSBURY
CEANPORT
WEST LONG BRANCH
ATLANTIC HIGHLANDS
HIGHLANDS
SEA BRIGHT
MONMOUTH BEACH
LONG BRANCH
DEAL
ALLENHURST
LOCH ARBOUR
ASBURY PARK
BRADLEY BEACH
AVON
BELMAR
SOUTH BELMAR
SPRING LAKE
SPRING LAKE HEIGHTS
SEA GIRT
MANASQUAN
BRIELLE
MILLSTONE
ROOSEVELT
UPPER FREEHOLD
ALLENTOWN
MIDDLESEX COUNTY
MERCER COUNTY
OCEAN COUNTY
BURLINGTON COUNTY
ATLANTIC OCEAN
PREPARED BY MONMOUTH COUNTY PLANNING BOARD

FIG. 3

TABLE 8

MONMOUTH COUNTY POPULATION

Planning Area	Square Miles	1950	1960	1970	1974 Est.	1976 Est.	1978 Est.	1985 Proj.	2000 Proj.
I	79	49,098	97,235	142,210	152,950	157,400	162,890	184,500	218,000
II	41	67,192	89,918	108,606	113,470	115,260	117,000	131,100	150,800
III	32	49,530	65,473	80,667	86,640	88,740	89,660	111,000	139,800
IV	40	22,806	33,326	43,040	46,870	47,400	48,440	65,200	86,700
V	198	30,757	41,379	79,823	96,470	99,260	103,110	151,000	229,500
VI	87	5,944	7,070	7,503	8,950	9,460	9,970	32,200	65,200
County Total	477	225,327	334,401	461,849	505,350	517,520	531,430	675,000	890,000

TABLE 9
PERMANENT AND SUMMER POPULATION
MONMOUTH COUNTY SHORE COMMUNITIES

MUNICIPALITY	(1970 Census) PERMANENT	ESTIMATED SUMMER	% SUMMER INCREASE
*Sea Bright	1,339	4,017	200.0
*Monmouth Beach	2,042	2,573	26.0
*Rumson	7,421	7,718	4.0
*Long Branch	31,774	55,605	75.0
*Deal	2,401	4,802	100.0
*Allenhurst	1,012	1,194	18.0
*Loch Arbour	395	438	10.9
*Asbury Park	16,533	42,655	158.0
**Ocean Grove	7,500	32,000	326.7
**Bradley Beach	4,163	14,000	236.3
**Avon	2,163	5,800	168.2
**Belmar	5,782	29,500	410.2
**Spring Lake	3,896	13,000	233.7
**Spring Lake Heights	4,602	7,350	59.7
**Sea Girt	2,207	2,770	25.5
**Manasquan	4,971	14,500	191.7
TOTAL:	98,201	237,922	

SOURCE: *Report on Refuse Collection and Disposal, March 1970, Havens and Emerson, Ltd., New York, N.Y.

**Sewerage Studies by the Birdsall Corp., S. Belmar, N.J.

NOTE: The accuracy of the above statistics has not been endorsed by the Monmouth County Planning Board.

Present Land Use

As mentioned previously, approximately 531,000 people reside in Monmouth County. Of this total, about 408,000 persons live within the thirty-nine (39) CAFRA municipalities, however, it should be noted that many of these municipalities do not lie wholly within the CAFRA zone and, therefore, the CAFRA area population is somewhat lower. This population is estimated to be approximately 210,800.

As might be expected, the coastal region of Monmouth County is heavily developed. Many of the towns, including Long Branch, Asbury Park, and Ocean Grove, were thriving summer resorts before the turn of the century. The Bayshore region was also a popular resort area between the world wars. Bayshore towns which were popular summer resorts included Keyport, Keansburg and the Cliffwood Beach section of Aberdeen Township. With the population boom of the 1950's and 1960's, these and other coastal towns grew and prospered with the addition of year-round residents.

Although a few coastal towns, notably Red Bank and Belmar, still have healthy central business districts (CBD's) several others including Asbury Park, Long Branch and Keyport have declined in recent years. Much of this decline is attributable to an increase in highway shopping centers built along highways 35 and 36.

There still are a few open areas within the Monmouth County CAFRA Zone. These areas are mainly in Middletown Township (along the north shore of the Navesink River) and Wall Township (between Highway 34 and the Manasquan River). Some of these areas are protected as county and state parks and the remainder is zoned for low density residential use.

Future Land Use

Although there is considerable growth potential remaining in Monmouth County as a whole, most of the areas within the CAFRA zone are not expected to continue at a high rate. Of the thirty-nine (39) municipalities within the CAFRA zone in Monmouth County, twenty-one (21) are almost fully developed and have little growth potential. Only ten (10) municipalities have a moderate to high potential for future growth. Just two (2) of these towns, Long Branch and Highlands are located wholly within the CAFRA zone.

Much of the future development in these towns will result from infill building of single family homes, commercial, etc., and redevelopment in the older urban core areas. Such urban core areas are Keyport, Keansburg, Red Bank, Asbury Park and Long Branch.

II. state coastal planning program and the county

IMPLICATION OF THE PROPOSED STATE COASTAL PROGRAM FOR THE COUNTY

The Coastal region in Monmouth includes a variety of land and water features, including streams and lakes, the Raritan Bay and ocean, a barrier spit which is the site of a national recreation area, a generally flat mainland on the Outer Coastal Plain, and the Highlands section of the Mount Pleasant Hills. The scenic, recreational, and biological values of these areas require special protection under the State's Coastal Management Plan. At the same time, the region lies at the eastern edge of one of the three urban service areas described in the county's General Development Plan (discussed later) and is characterized as a growth area in both the State Coastal Management Plan and Development Guide Plan. As noted earlier, the thirty-nine municipalities lying wholly or partially within the CAFRA zone accomodate 408,000 persons (approximately 210,800 in the CAFRA area itself) out of a total county population of 531,430. In order to provide tighter controls in a wide (1000-foot) strip along the waterfront while meeting the needs of an urbanized area, the Planning Board has proposed (below) that the "near shore" and "upland" areas be designated as Subzones A & B. The existing regulations would be changed to strengthen controls over the waterfront and relax controls over residential construction in noncritical interior areas.

The Program's policies favor the protection of the coastal ecosystem, the energy-efficient concentration of development and preservation of open space, and the redevelopment and reuse of existing developed areas. There is an emphasis on requirement that waterfront development be coastal-or water-dependent, and the Program accords the highest priority to recreational and resort-oriented uses. The principle of efficient land use is particularly important in Monmouth's coastal area, where the narrow area defined by the CAFRA zone is almost entirely developed. A number of municipalities do not meet the recommended standards for open recreational space.

While the new policies represent in large measure the interim guidelines employed for several years, no clear siting pattern has emerged from the administrative history of the permit program to date. The history of CAFRA decisions and related Planning Board comment for projects in Monmouth County are reviewed in Part IV.

During 1976 and 1977, the Planning Board received applications for 22 subdivisions and 104 site plans, as indicated on the respective Site Plan and Subdivision Activity Maps, in the CAFRA area:

	1976	1977
Subdivisions		
Major single-family developments (3 or more lots)	8	14
Site Plans		
Garden Apartments	1	4
Mobile Homes	0	0
Adult Communities	-	1
Commercial (exempt from CAFRA review)	34	36
Industrial	3	5
Public and Quasi-Public	5	5

Few of these projects were actually reviewed by CAFRA, and the county, in turn, receives only those defined by the County and Regional Enabling Act (Part III). Unless CAFRA regulations are amended to cover additional uses, many critical areas along the land-water interface will be lost to inappropriate commercial and small residential development.

The Program's location, use, and resource policies have been summarized in an outline prepared by the Planning Board. Copies are still available.

The location policies, which consider both the sensitivity and development potential of a site, impose specific siting criteria to provide for the protection of a number of land and water areas. Development along most of the ocean and bay shores will be prohibited in a high erosion hazard zone. Restrictions are also placed on construction on floodplains and wetlands. Specific policies have been developed for 39 special land and water and water's edge areas. In addition, two tables describe the permitted uses and density standards for various land subareas and water types. The land subareas are actually composites of six factors, which involve natural conditions and development potential.

Development potential is defined in terms of available roads, water supply, sewerage facilities, shopping areas, and schools. Some of these facilities are shown on the Sanitary Sewer and Water Supply maps of the Planning Board and on the Monmouth County, New Jersey map, which also shows marinas. An emphasis on encouraging infill would help ensure that vacant land on appropriate upland areas would be developed in a timely manner. As considered in the land acceptability index, however, it is but one element of one of several development factors.

The coastal zone has a dense network of roads, water supply lines, and sanitary sewer facilities. The two large areas lacking substantial infrastructure are the north shores of the Navesink and Manasquan Rivers in Middletown and Wall Townships. (Construction of sewerage facilities in Brielle Borough is more than 30% complete.)

The coastal use policies are summarized in Appendix B. The public facilities guidelines require the demonstration of need for a project, evidence that other alternatives are impractical or unfeasible, and the recognition of the need for recycling, mass transit, and aquifer recharge.

Housing is prohibited on the natural water's edge. A mix of varied and clustered housing types available to all ages and income levels is encouraged. High rises oriented perpendicular to the shoreline are acceptable one block in from the waterfront only where they are compatible with existing uses. Three such structures have been approved in Atlantic City and two denied, one for Toms River and another for Brigantine. Hotel/motel uses are conditionally acceptable if they promote public recreational use in existing resort areas.

Resort and recreational uses are accorded the highest priority and shall be incorporated into industrial and residential designs. New marinas are acceptable if they meet a demonstrated regional demand which cannot be met by upgrading or expanding present regional facilities. This standard was recently applied in the case of a wetlands denial for a marina along Many Mind Creek in Middletown, near the Atlantic Highlands Municipal Marina, which has conditional approval for expansion.

Along the bay and ocean shores, dune restoration and the non-structural approach to shore protection are encouraged. New and expanded amusement piers are generally discouraged.

Industrial and commercial facilities are limited primarily to coastal-dependent uses adjacent to existing facilities of the same type. In Monmouth County, the municipalities with large, existing industrial zones include Wall, Middletown, Hazlet, and Aberdeen Townships, and Union Beach and Keyport Boroughs. In other areas, such projects would not be approved unless they offer a high jobs/acre ratio.

If marketable volumes of offshore gas and oil are discovered, the installation of a pipeline along a major corridor (such as the Garden State Parkway) and associated pumping stations would be a strong possibility under the energy guidelines. While a gas processing plant might also be acceptable, major facilities associated with offshore drilling are directed to the existing built-up areas with refinery capacity outside the coastal zone.

The Program's resource policies outline performance standards which must be met before a project can be approved.

Approved structures must be visually compatible with their surroundings and provide the maximum practical visual and physical access to the waterfront. The developer must assure that the public services demands can be met. In Monmouth County, the Bayshore Regional Sewerage Authority has imposed a building moratorium along certain areas on the Raritan Bay, as the present wasteloads exceed plant capacity. Also, the DEP has conditioned expansion of the Atlantic Highlands Marina on the installation of secondary treatment facilities at the existing plant. The Bayshore has also experienced problems with salt water intrusion. Under the program, additional development cannot cause salt water intrusion or significantly lower the water table. The secondary impacts of new projects must also conform with the resource policies.

The volume of storm water runoff shall be minimized and simulate natural drainage systems. In order that excessive levels of discharge satisfy the DEP's surface water quality standards, measures such as sediment traps, oil skimmers, and vacuum street cleaners may be required.

The policies also require the maximum practical maintainence of wildlife habitats. They also promote energy conservation and encourage the protection and enhancement of neighborhoods and special communities.

RECOMMENDED CHANGES REGARDING THE COUNTY COASTAL ZONE BOUNDARY AND COASTAL POLICIES

It is recommended that the present CAFRA Zone be further defined and split into two (2) subzones. Each subzone would contain a portion of the existing CAFRA zone but would not extend beyond the present zone. This type of redefinition of the coastal zone is proposed in order to overcome some of the problems which have arisen since the act was passed.

One of these problems is that if an applicant wants to build a project away from a body of water in a non-critical area, he must go through the whole EIS procedure of application fees, the written assessment, the public hearing, etc. The delays, in this case, add appreciably to the cost of a finished housing unit, which, in turn, prices the unit even farther out of the hands of the middle income buyer.

What we are talking about here, is, the philosophy of regulation. We are talking about the concept of intensive regulation in a small area versus broad regulation over a large area. Since we are primarily interested in the coastal or near shore areas, there is no valid reason for regulating areas one mile or more from the bay, ocean or tidal estuary. Furthermore, there should be less concern for a given project in a developed urban area, such as Asbury Park or Long Branch, than in a less developed suburban town such as Wall Township or Shrewsbury Borough. The reason for this, in general, is that in the entirely developed urban center, any larger construction project most likely would be in the form of redevelopment, whereas, the same project in the undeveloped or partially developed town would be new development. There are different impacts for the same project in different settings.

To accomodate these problems, it is recommended that there be two (2) subzones. These would be subzones A and B as follows:

Subzone A-Near Shore Zones

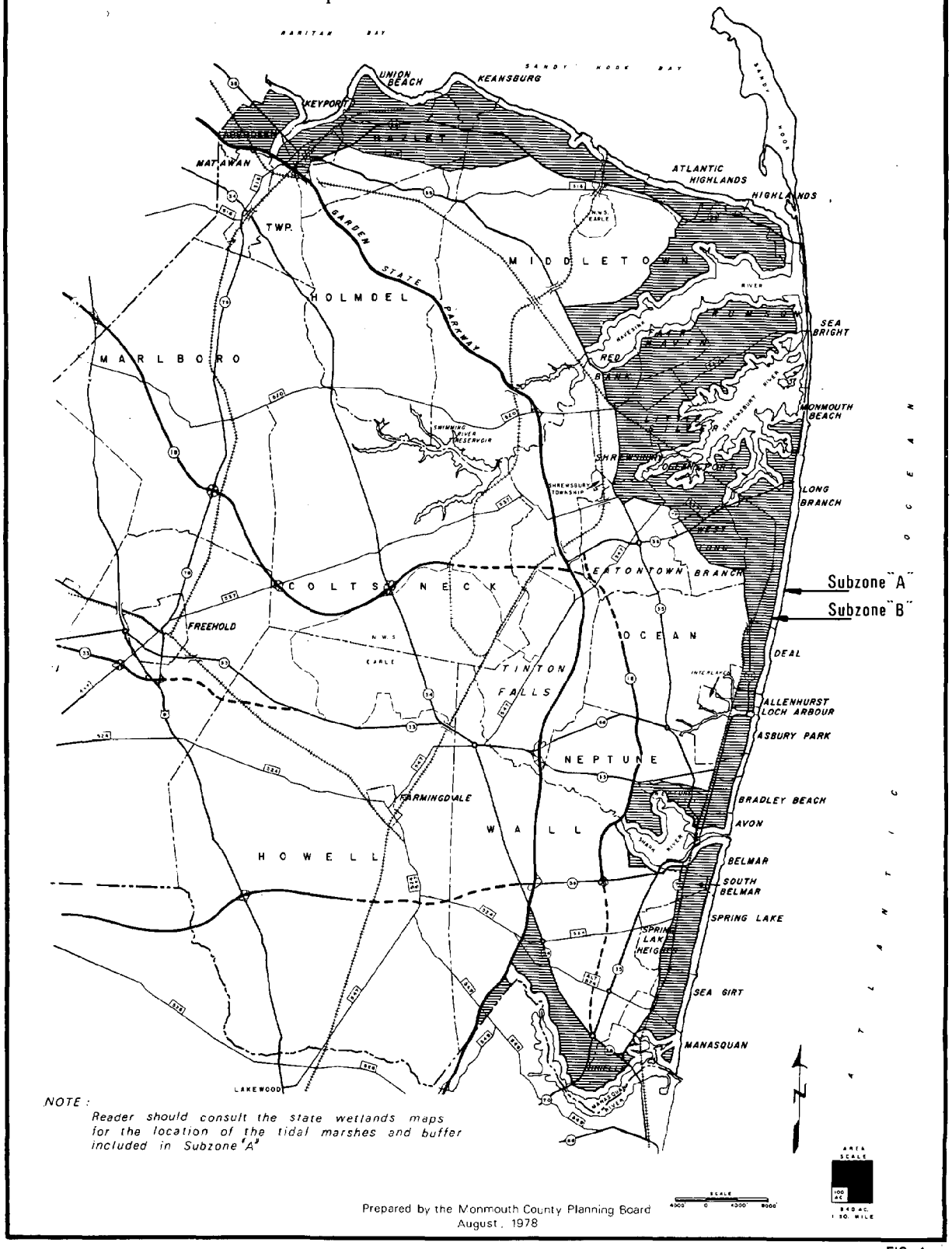
All development within 1000 feet of the Atlantic Ocean, Sandy Hook and Raritan Bays and other tidal estuaries, would be in this zone. Also, all state-regulated wetlands and a 100-foot buffer zone around these wetlands would be in Subzone A. Commercial, residential and industrial development would be regulated. Single-family houses (one lot) would be exempted unless such construction were proposed for critical environmental areas. Such a critical environmental area would be tidal wetlands, beach areas, areas of steep (greater than 15%) slopes, etc. Proposed Subzone A is shown in figure 4.

Subzone B-Upland Areas

Only major commercial, residential and industrial developments would be regulated. Major projects would be defined as follows:

1. Residential-fifty (50) units or more and/or twenty-five (25) acres or more in land area.

Proposed CAFRA Area Subzones



Prepared by the Monmouth County Planning Board
August, 1978

FIG. 4

2. Commercial-projects of ten (10) acres or more in size.
3. Industrial-present CAFRA regulatory standards would be retained.

As in Subzone A, there would be a provision in the regulation of Subzone B for projects built on previously defined critical environmental areas. In this case, the present CAFRA threshold of twenty-five (25) residential units or more would hold with the same commercial and industrial limits defined above. Such critical environmental areas would include areas of steep slopes, floodplains, water-soaked (marshy) areas, etc., and would be mapped by the State. Proposed Subzone B is shown in figure 4.

The Planning Board's recommendations for changes in the coastal policies are presented in Appendix C.

III. state-local coastal policy consistency

SUMMARY OF LAND AND WATER USE DECISION-MAKING AUTHORITIES

Authority and responsibility for decisions governing land and water use on the coast are shared by a number of organizations and agencies at the regional and local levels. An identification of these groups will help to provide a clearer understanding of the legal tools for guiding development and will encourage better cooperation between agencies at different levels. The interests and functions of some groups (local conservation organizations, e.g.) are not defined by law. Nonetheless, these bodies act as important sources of information and significantly influence public and official attitudes. A partial list of county and municipal agencies, advisory bodies, organizations, and officers was obtained from the Monmouth County Directory and is presented below; it is followed by a detailed discussion of certain other agencies which are directly or indirectly responsible for land and water use.

A review of the divisions of the Department of Environmental Protection and description of the CAFRA, Wetlands, Riparian, and Shore Protection programs are included in the State of New Jersey Coastal Management Program--Bay and Ocean Shore Segment and Final Environmental Impact Statement, August, 1978. The document also includes flow diagrams outlining the application process for the three former programs and an inventory of other State departments and regional and interstate agencies. As the primary purpose of this section is to explain the responsibilities of certain county agencies to the local communities to encourage better communication, the discussion of municipal authorities is very brief:

Engineering Department
Highway and Bridge Supervisors
Monmouth County Board of Agriculture
Airport Development Advisory Committee
Regional and Municipal Sewerage Authorities
Bayshore Outfall Authority
Community Development Program
Construction Board of Appeals
Cooperative Extension Service (Rutgers University)
Heritage Committee
Historical Association
Industrial and Economic Development Department
Industrial Advisory Committee
Industrial Pollution Control Financing Authority
Monmouth Museum and Cultural Center
Mosquito Extermination Commission
Overall Economic Development Committee
Reclamation Center
Shade Tree Commission
Transportation Coordinating Committee
Municipal Engineer
Municipal Building and Plumbing Inspectors

County Groups

In addition to its involvement in general planning, the Monmouth County Planning Board is permitted, under P.L. 1968, Ch. 185, to review site plans and subdivisions. County Planning Boards may review all subdivisions and approve or disapprove those affecting roads and drainage courses and structures for which the county is responsible.

The dedication of a roadside or drainage right-of-way along roads or drainage-ways recorded on a county master plan or official map may be required as part of an approved project. Site plan approval may also be required for commercial, industrial, and multi-family residential facilities of five or more units, or for development requiring off-street parking, or generating runoff in excess of specified standards which have frontage on a county road.

The Planning Board (January 5, 1970 Site Plans and Subdivisions Resolutions) reserves the right to waive the review of subdivisions involving no new streets, no county road, no adverse drainage conditions impacting county facilities, and less than, or equal to, three units. The site plan must provide information on the natural and man-made drainage within 200 feet of county facilities accurate to the two-foot contour interval and feature stream cross-sections. Developers are encouraged to submit all site plans (which must include two-foot contour intervals and the location of landscaped areas and trees of six-inch or greater caliper). Off-street parking areas involving less than five spaces are exempt, and there are no runoff standards.

The Planning Board must also receive, in accordance with the Municipal Land Use Law (P.L. 1975, Ch. 291), hearing notices for application for development adjoining another county or within 200 feet of the municipal boundary and for the adoption or revision of any development ordinance, capital improvement program, official map, or master plan. Final copies of the three former documents are invalid unless filed with the County Planning Board. The Planning Board reviews the ordinances and comments when appropriate.

The Environmental Council was formed by the Freeholders as an advisory body to the Planning Board in July, 1972 to inventory and evaluate the region's physical and natural features and to advise the Monmouth County Planning Board on environmental priorities.

The Council is charged with initiating studies concerning the environmental impacts of development projects in the county; providing technical advice and information to the Planning Board; maintaining files on technical information, grants-in-aid, and legislation relating to the environment; commenting on proposed legislation; and acting as a liaison between the Planning Board, municipal environmental commissions, and other conservation-oriented organizations.

Publications of the Environmental Council include the 1976 Environmental Quality Index, Natural Features Study (1975), and Environmental Commissions Directory (1978). The Council also prepared a Development Suitability Map and worked on the revision to the Monmouth County General Development Plan.

The Monmouth County Drainage and Waterways Agency was created by Resolution of the Board of Chosen Freeholders in October, 1976. Although its staffing and coordination requirements are provided by the County Planning Board, the Agency is an independent body reporting directly to the Board of Chosen Freeholders. The duties of the Drainage Agency are as follows:

1. To implement Sections I and II of the July 29, 1976 Drainage and Stream Clearance Proposal.

2. Establish and maintain files containing data and information relating to drainage and waterways.

3. Maintain files on existing and proposed Federal, State, and local legislation relating to drainage and waterways.

4. Review proposed legislation relating to drainage and waterways and advise the Monmouth County Board of Chosen Freeholders as to the effect of such legislation on the County and its agencies.

5. Provide technical advice and assistance on matters relating to drainage and waterways to other County departments at the request of the Board of Chosen Freeholders and perform such other duties as will be in furtherance of drainage, waterways, and conservation interests of Monmouth County.

At the present time, the Drainage Agency is actively working in a pilot county-municipal stream clearance program. This stream clearance program is limited to minor stream cleaning and desnagging in approved towns. The basic idea is that local municipalities request assistance from the County via letter. Agency personnel, along with staff from the Monmouth County Mosquito Extermination Commission, survey the streams to determine the feasibility and the need for the project. The Agency then compiles information necessary for a stream encroachment permit.

The Monmouth County Board of Health serves twelve municipalities, seven of them in the coastal zone: Atlantic Highlands, Avon, Belmar, Manasquan, Neptune City, South Belmar, and Wall Township. As of April, 1978 (NJAC 8:53), all local Boards of Health (municipal, county, regional health commission) must employ or contract for the services of a full-time, licensed health officer to administer 27 required and 27 elective services. The Boards of Health must supply water-testing services; assist in enforcement of air quality regulations by reporting, monitoring, and enforcing a local ordinance; inspect bathing places at least twice a year; enforce building standards; control public water supplies; assess the need for public sewerage collection systems; control the storage, collection, and disposal of solid and liquid refuse; and survey streams for compliance with State and Federal standards. They may also develop and enforce noise control ordinances.

The County Environmental Health Act (P.L. 1977, Ch. 443) mandates the formation of County Boards of Health to develop and enforce programs to control air pollution, solid waste, noise, and water pollution. It also requires the provision of information to the public and citizen education programs on all environmental health matters. These activities should complement the operation of the County Coastal Clearinghouse. Under the Realty Improvement Sewerage Facilities Act (P.L. 1954, Ch. 199 and revised code), the local health officer must witness percolation tests and approve or disapprove the installation of individual water supply or sewerage facilities and must inspect such systems before they are

covered from view. The State may revoke certification for projects involving fifty or more realty units.

The Monmouth County Board of Parks and Recreation, through the Parks System, is responsible for the management of many recreational activities and large holdings of public open space. The Board recently applied to Green Acres for seven grants for projects totaling $8,000,000, representing priorities established over the past five years. The Planning Board and Park System work cooperatively from time to time on the feasibility determination of areas suitable for use as parks, conservation areas, and hiking and bicycle trails.

The Freehold Soil Conservation District (Monmouth and Middlesex Counties), acting under the Soil Erosion and Sediment Control Act (P.L. 1975, Ch. 251), must approve specific control plans for the disturbance of 5,000 square feet or more of land surface for the "accommodation of construction for which the Standard Building Codes of the State of New Jersey would require a building permit." Projects involving a single-family home on a single lot are exempted.

The New Jersey Solid Waste Management Act (P.L. 1975, Ch. 326) mandates the preparation of a Solid Waste Management Plan and the formation of County Solid Waste Advisory Councils. The Monmouth County Solid Waste Advisory Council (SWAC) is responsible for developing policy concerning the various elements of the Solid Waste Management Master Plan (including refuse collection and disposal, strategies for sludge and septic waste disposal, and coordination of related on-going projects) and determining necessary financing. In preparing the data base and reviewing the technological aspects of solid waste management planning, the SWAC is aided by the County Planning Board staff and the consultant hired to prepare the final draft plan, which is to be effective for a ten-year period with periodic revisions.

Monmouth County's 208 Areawide Water Quality Planning effort is being conducted by the Department of Environmental Protection in conjunction with the local Policy and Technical Advisory Committees under the 1972 Federal Water Pollution Control Act. The present schedule calls for a 20-year management plan to be approved by November and certified by the State and Federal governments on an annual basis. The plan must include a determination of the necessary wastewater and stormwater treatment works and establishment of construction priorities; a program to regulate dischargers; nonpoint source controls; salt-water intrusion controls; the regulation of residual solid waste affecting water quality; and identification of management agencies which will be eligible for up to 75 percent of administrative costs. The issuance of NPDES (pollutant discharge) permits and construction of treatment works will have to conform with the approved plan.

Municipal Groups

The official map and zoning ordinance is adopted by the local governing body. The Planning Board must adopt the municipal master plan, to be reviewed every six years; administer the site plan and subdivision regulations and permit certain variances; prepare the capital improvement program; and review development measures proposed by the governing body. The Board of Adjustment is charged with interpreting the zoning ordinance and ruling on applications for variances.

A directory of municipal environmental commissions, which includes addresses and activities, has been prepared by the Environmental Council and is available from the Planning Board. An unpublished list of conservation groups and concerned citizens is also maintained.

SUMMARY OF COUNTY AND MUNICIPAL PLANS, ZONING, AND MAPS

The extent of urbanization in the CAFRA zone is shown most vividly on the Development Suitability Map (MCPB, 1974), on which the developed areas are shown in red, superimposed over shades of green ranging from dark to white (highly suitable to highly unsuitable). These uses are broken down on the Generalized Land Use Map (MCPB, 1974), Fig. 5, and detailed acreage tabulations are available for Planning Areas II-IV. A Selected List of Monmouth County Planning Board Maps and Reports is presented in Table 10.

The Development Suitability Map shows intensive development on the immediate edge of a number of streams and lakes and the ocean and bayshore. Large areas of wetlands have also been filled. Nonetheless, certain areas remain because building limitations made them less attractive when large tracts were available elsewhere. These include a number of stream floodplains along the Bayshore and sedge islands in the Shrewsbury and Navesink Rivers. As noted earlier, the steep slopes of Middletown along the Navesink River and the north shore of the Manasquan below Route 34 in Brielle and Wall Township are also largely undeveloped. Substantial tracts enjoy protection as Federal, State, and County lands and parks. (Monmouth County, New Jersey, Map, 1978).

Wooded areas remain in the CAFRA areas of Hazlet and Middletown Townships, Sandy Hook, Middletown, and Wall Townships, with small tracts in other municipalities. Steep slopes are located in Middletown and Atlantic Highlands. These areas and the coastal water-related features (Natural Features Study Maps, MCPB, 1975) should be the focus of special conservation measures. With the exception of the western Wall Township area, the areas with soils suitable for cultivation are limited and fragmented and represent potential sites for public, open space. There are no significant areas with Class I soils in the coastal zone.

The Monmouth County General Development Plan, which is presently being revised, was adopted by the Planning Board in 1969. (The Land Use Plan in terms of use acreage is shown in Table 11 .) The Plan describes three urban service areas with populations warranting the range of services and facilities characteristic of fully developed areas. The recommended densities range, in general, from medium to low (1.20-4 DU/acre), to high (over ten acres). Most of the development during the two decades preceding the Plan was constructed in the medium to low category. The service areas include the Allentown area near Trenton, the corridor along Route 9, and a belt along the coast beginning just west of the Garden State Parkway. The State coastal area forms the eastern extent of this latter area. The service regions leave two extensive rural areas which are to be buffered by low-density residential and open space areas. Only the rural areas would remain unsewered and without public water facilities.

While there are no rural areas shown in the coastal zone, several areas are designated for low-density residential use: Wall Township south of Route 34; parts of Rumson, Little Silver, and Fair Haven; Middletown along the Navesink; and the southern part of Highlands. Asbury Park and Ocean Grove are the only municipalities with large areas recommended for high residential densities.

Table 10

A Selected List of Monmouth County Planning Board Maps and Reports

General

March, 1966	Monmouth County Master Sewer Plan
October, 1969	General Development Plan
May, 1970	Monmouth County Master Water Plan
January, 1971	Monmouth County Open Space Plan 1970/1985
February, 1972	Cluster Development Information Report
January, 1973	Multi-Family Housing Report
May, 1973	Composite Zoning Map
April, 1974	Development Suitibility Map
April, 1974	Generalized Land Use
April, 1975	Natural Features Study (Includes maps of agricultural land, slopes and woodland, water-related features, and unique areas)
July, 1975	Composite Zoning Map
December,1975	Economic Base Report
March, 1976	Municipal Parks & Open Space Inventory (prepared by Parks System)
December, 1976	1976 Site Plans and Subdivisions
January, 1978	Beaches, Boating & Offshore Oil
May, 1978	1977 Site Plans and Subdivisions Map
1978	Monmouth County, N.J. Map (Schools, marinas, airports, etc., for growth potential index)

Coastal

February, 1971	Sewerage Facilities Map
June, 1975	Land Use Report: Planning Area 3
May, 1977	Urban Community Study Series: Red Bank
August, 1977	Land Use Report: Planning Area 4
January, 1978	Water Supply Facilities Map
February, 1978	Urban Community Study Series: Long Branch
July, 1978	Composite Zoning Map: Coastal Zone
Nearing Completion	Land Use Report: Planning Area 2

Table II - General Development Plan: Proposed Monmouth County Land Use Acreages

LAND USE CATEGORY		ACREAGE	PERCENT OF TOTAL
RESIDENTIAL	High Density	1,784.18	.58%
	Medium Density	10,241.23	3.35
	Medium-Low Density	93,762.54	30.72
	Low Density	20,701.52	6.78
	Rural Density	54,417.75	17.83
	TOTAL	180,906.32	59.26
COMMERCIAL	Center	647.74	.21
	District	383.54	.13
	Highway	8,725.78	2.86
	TOTAL	9,757.06	3.20
INDUSTRIAL	Manufacturing	20,391.41	6.68
	Office & Research	3,059.38	1.00
	TOTAL	23,450.79	7.68
PUBLIC AND QUASI-PUBLIC	Regional Recreation and Watershed	20,592.90	6.75
	Regional Drainage and Conservation	17,492.75	5.73
	Local Drainage and Conservation	12,628.29	4.14
	Local Centers	309.74	.10
	Beach	651.80	.21
	Other Major	18,967.88	6.21
	TOTAL	70,643.36	23.14
STREETS		17,603.87	5.76
GARDEN STATE PARKWAY		2,903.20	.96
TOTAL ALL CATEGORIES		305,264.60	100.00

The possibility of increased development resulting from the completion of Route 18 and Interstate I-195 was noted in Part I. The abandonment of the road leading from Earle Naval Depot in Colts Neck to the Leonardo base and of the Central Jersey Railroad along the Bayshore are two additional corridors of potential importance.

The Plan recommends that the neighborhood concept be used in future development. A typical neighborhood unit would consist of about 450 single-family and 150 garden apartment dwelling units and would include an 18-room school. A neighborhood shopping center with a supermarket as the lead tenant would be provided for every four or five neighborhood units. The location of industrial facilities would be determined by aesthetic considerations, transportation access, and the availability of utilities. Green areas would be left throughout the unit, and streams would be preserved and incorporated into park and recreation areas.

The General Development Plan suggests that ten percent of the County land area be used for parks and greenbelts related to major stream courses. Local and regional drainage and conservation areas would occupy 9.87 percent of the County area and public and quasi-public beaches 0.21 percent. Still another 6.75 percent would be reserved as regional recreation and watershed areas.

The Monmouth County Open Space Plan, 1970/85, includes a map showing the location of existing and proposed County parks; State, Federal, and quasi-public land; suggested stream valley acquisitions; power line rights-of-way; golf courses; trails; and bikeways. The Planning Board will soon canvass the municipalities to gather information on official and proposed bikeway plans at the local level. The information will be coordinated and compiled into a comprehensive study. The Planning Board has also been working with the Parks System in establishing stream valley acquisition priorities. The relatively undeveloped lands along the Manasquan River offer particular potential in light of the natural beauty of the stream course and proposals for a regional sewerage system and reservoir, which would provide corridors for trails and bikeways.

The patterns of development reflected in the Composite Zoning Map (MCPB, 1978), Fig. 6, which incorporates the zoning maps of the 39 coastal towns, are generally similar. The municipalities have zoned a slightly greater area (in locations generally compatible with the county plan) for low-density residential use. While there are no rural areas designated on the county map, Middletown zones a large area along the north shore of the Navesink River for rural residential densities.

Overall, the extent of commercial areas is roughly the same. There are few major differences in the distribution of these zones. Middletown does provide for a large industrial zone spanning several miles along the Bayshore, an area much larger than that recommended by the county. In addition, the county designates the Route 34 corridor above the low-density Wall Township area for industrial use, while the Township requires commercial development.

Aberdeen Township provides for Conservation/Recreation areas in "recognition of Matawan (Aberdeen) Township's estuarine areas and the New Jersey environmental

protection laws." Site plans submitted to the local planning board must have the prior approval by the Offices of Wetlands or Coastal Zone Management where applicable. Permitted uses include farms; boat yards, marinas, yacht basins, and boat mooring slips; restaurants, bars, taverns, and night clubs; public playgrounds, conservation areas, parks and public purpose uses; and public utilities as conditional uses. Minimum lot area for the principal building is 40,000 square feet.

Middletown Township also recognizes a coastal zone. In addition to a riverine floodplain ordinance, the Township has also enacted an ordinance for the coastal floodplain regulating such uses as groins, bulkheads, docks, and activities in the area of dunes and other natural barriers. A municipal floodplain encroachment permit is required for certain uses along the river and bayshore. Riparian lands, state wetlands and floodplains, floodways, ponds, lakes, and stream corridors must be preserved as part of the permanent open space of cluster development and may not be used to satisfy the minimum open space requirement.

Monmouth Beach requires that an environmental impact statement be filed with certain site plans.

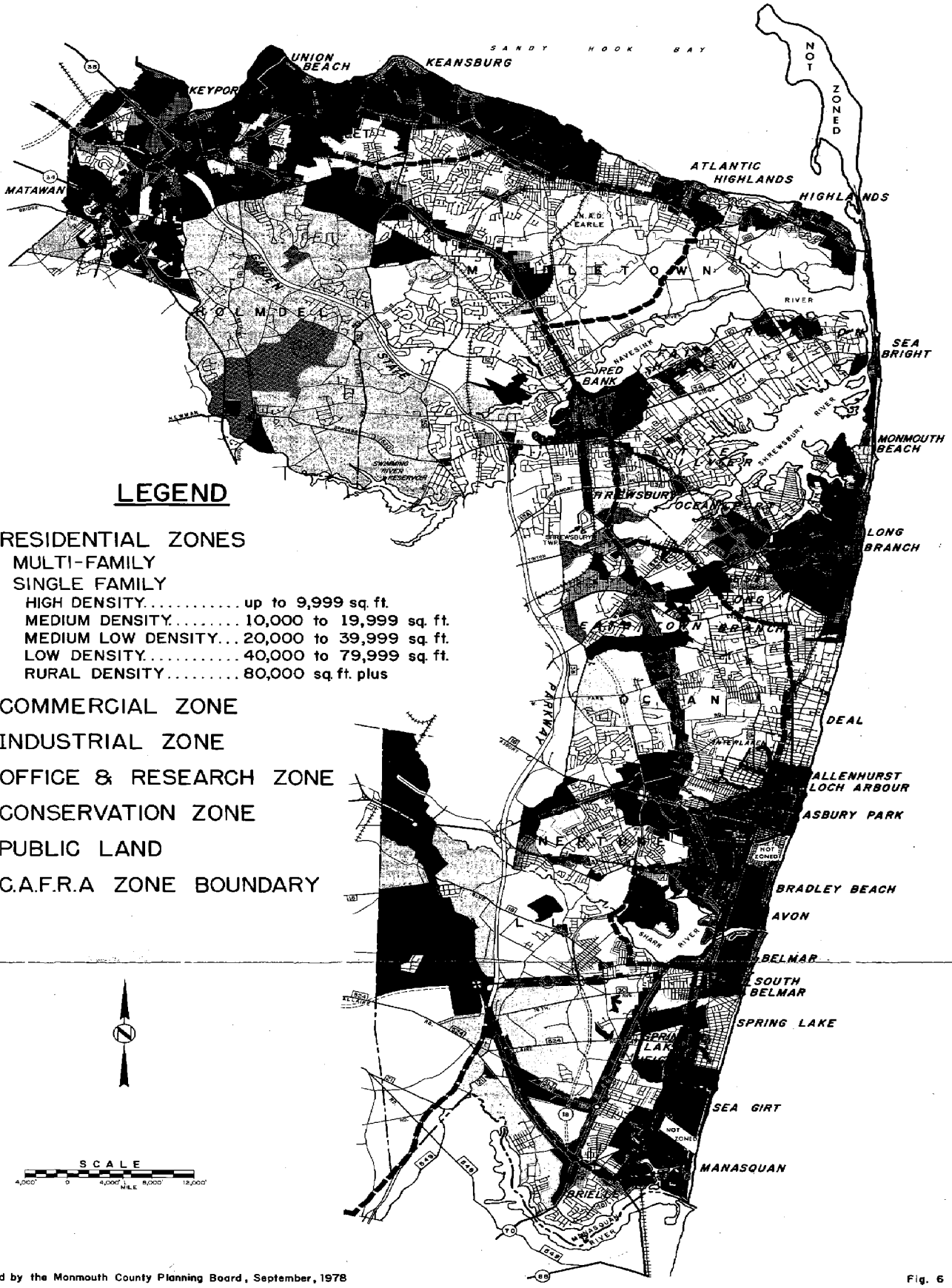
Few beaches are zoned as public areas on the Composite Zoning Map.

The major difference between the county and municipal plans lies in the fact that the towns do not designate drainage and conservation areas, although some have passed floodplain ordinances.

The land use and resource ordinances of the coastal municipalities are outlined in Table and summarized below. It must be noted that, in certain cases, the determination as to whether a municipality has a particular ordinance (i.e., whether they have one which truly protects a resource) is rather subjective. For example, while all towns have floodplain ordinances which meet the requirements of the Federal Flood Insurance Program, only those which provide for the protection of the natural floodplain itself (not simply the structures built on it) are indicated on the matrix. Ordinances not on file with the Planning Board are not legally valid and, therefore, were not included.

For the purposes of our matrix, "critical areas" are those (excluding wetlands and floodplains) such as steep slopes, wooded areas and wildlife habitats, and marshes, swamps, and bogs which impose certain development constraints or possess special aesthetic or biological values.

C.A.F.R.A. MUNICIPALITIES ZONING



Prepared by the Monmouth County Planning Board, September, 1978

Fig. 6

SUMMARY OF MUNICIPAL DEVELOPMENT ORDINANCES

1. There are thirty-nine (39) towns in Monmouth County wholly or partially within the New Jersey CAFRA (Coastal Protection) Zone.

2. Twenty-eight (28) towns have adopted Master Plans, ten (10) towns are working on Master Plans, and one (1) town does not have a Master Plan and is not working on one.

3. Five (5) towns permit cluster zoning, one (1) town permits PUD's and four (4) towns permit PRD's.

4. Seven (7) towns permit high-rise development.

5. Twenty-three (23) towns permit light industry, four (4) towns permit heavy industry, and thirteen (13) towns prohibit all types of industry.

6. Two towns recognize a coastal zone and four (4) towns provide for the protection of coastal wetlands.

7. Fifteen (15) towns have ordinances relating to public beach access.

8. Seven (7) towns provide for the protection of floodplains, four (4) towns regulate the placement of bulkheads in tidal waters, and six (6) towns provide for the protection of critical environmental areas.

9. Four (4) towns have completed Natural Resource inventories (NRI).

The Planning Board recently learned that a professor of landscape architecture at Rutgers University is preparing a paper entitled "Visual Quality and the Coastal Zone: A Comparison of Municipal Zoning Laws in New Jersey." When completed around March, 1979, the study should provide additional information concerning local land use approaches.

KEY TO ZONING MATRIX (TABLE 12, OPPOSITE)

1. Adopted Master Plan (*in progress)
2. Coastal Zone
3. Cluster Zoning
4. PUD Zoning
5. PRD Zoning
6. High-Rise Zoning (Residential)
7. (a) Industrial Zoning (L = Light, X = Light and Heavy)
   (b) v - with industrially zoned vacant land, p - with performance standards, u - unknown (no reply)
8. Beach Access
9. Wetlands
10. Flood Zone/Floodplain
11. Bulkhead
12. Critical Areas
13. Other
14. Ban on Energy Facilities
15. Soil Erosion and Sediment Control Ordinance Certified by Freehold District, In Accordance with P.L. 1975, Ch. 251.
16. Municipal Environmental Commission

Source: 1-13, Industrial performance standards (Middletown only)-1978 survey of ordinances on file with Monmouth County Planning Board.

7b, 14 - Data gathered during preparation of Beaches, Boating, and Offshore Oil (MCPB, 1978).

15 - Freehold Soil Conservation District, 1978.

16 - Environmental Council Directory.

Table 12

MONMOUTH COUNTY CAFRA AREA MUNICIPALITY ZONING MATRIX

Municipality \ Ordinance	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Aberdeen Twp.	X	X	X				Xu		X	X		X				X
Allenhurst	X							X						X		
Asbury Park	*					X	Lp	X						X		
Atlantic Highlands	X					X	Lu									
Avon-by-the-Sea	*						vLp	X						X		
Belmar	X						L	X						X		
Bradley Beach	X							X						X		
Brielle	X												NRI			X
Deal								X						X		
Eatontown	X		X				vXp							X		X
Fair Haven	X													X		X
Hazlet	*				X		vLp			X				X		X
Highlands	X							X								
Holmdel Twp.	X						L									X
Interlaken	X															
Keansburg	X						L									X
Keyport	X				X		Lu									
Little Silver	X						vLp		X					X		X
Loch Arbour Village	X															
Long Branch	X					X	Lu	X		X						
Manasquan	X		X	X			Lp	X	X			X				X
Matawan	*															X
Middletown Twp.	X	X	X		[1]	X	pLu	X	X	X	X	X	NRI			X
Monmouth Beach	X							X			X		NRI			X
Neptune City	*					X	Lp							X		[o]
Neptune Twp.	*						uL	X							X	X
Ocean Twp.	X		X				vLp					[2]	NRI [3]	X	X	X
Oceanport	X						uL									
Red Bank	X				X	X	uX				X					
Rumson	*															X
Sea Bright	X							X		X			[4]			
Sea Girt	X							X								
Shrewsbury Boro	X						vLp							X	X	
South Belmar	*						L							X		
Spring Lake	X							X						X		
Spring Lake Heights	X				X	X										
Union Beach	*						X									
Wall Twp.	X									X	X	X	[4]			X
West Long Branch	*						vL			X		X	[4]			X

[1]Planned Adult Community
[2]Tree Removal
[3]Tree Removal
[4]Preservation of Natural Features

POLICY AREAS OF AGREEMENT, CONFLICT, AND CONFUSION

The consistency of county and local policies and plans was treated in the previous section. In the Statement on the Bay and Ocean Shore Segment presented in Appendix C, the Planning Board expressed strong approval of the basic coastal policies of the State's Coastal Zone Management Program. This section will outline specific recommendations for municipal land use and will propose ways to achieve these objectives.

The Municipal Land Use Law (P.L. 1975, Ch. 291) lists a number of goals, including a "desirable visual environment through creative development techniques" and the "conservation of open space and valuable natural resources" and the prevention of urban sprawl and "degradation of the environment through the improper use of land," with recognition given to the agricultural uses. Local master plans must include a natural resource inventory and conservation plan aimed at the preservation, conservation, and utilization of natural resources. When the local planning board has received the index of natural resources from the environmental commission, the board must forward to the commission an informational copy of each application for development. A completed natural resource inventory would be crucial to the development of any transfer of development rights program. Municipalities which have already prepared NRI's could share their experience and technical information with neighboring towns. The Planning Board maintains a growing collection of environmental impact statements which could provide further information.

Among the required or discretionary elements of the municipal subdivision and site plan ordinances are provisions for adequate light and air, water supply, drainage, shade trees, sewerage facilities (and other utilities), preservation of onsite natural resources, screening and landscaping, designation of open space areas for PUD's and PRD's and residential clusters, and the protection of soils and floodplains.

While the protection of vast open spaces and prime agricultural land may be of concern inland, intensive development is already a fact of life in the coastal zone, where the major focus will be on the maintenance of sufficient public open space and good land use on the site level. In the latter case, substantial progress would be realized through the enforcement of a few basic ordinances governing, e.g., floodplains, soil disturbance, and tree removal. The special controls for the proposed Subzone A would further limit floodplain development, and the Environmental Council has recommended extending the jurisdiction of the Soil Erosion and Sediment Control Act. In reviewing subdivisions, the Planning Board recommends, and generally receives, 50-foot easements along streams. In December, 1976, the Planning Board succeeded in having 410 acres of previously unmapped tidal marsh placed under State control. The General Development Plan recommends the establishment of proposed "taking lines" for the preservation of major stream courses and adjoining lands for conservation or park purposes.

As shown on the Zoning Matrix (Table 12), most municipalities do not provide special protection for their unique or sensitive natural features. The Environmental Council places a very high priority on encouraging the adoption

of conservation ordinances and is considering regional meetings to discuss this with the local environmental commissions.

The DEP's plan to declare certain sites as soil or vegetation areas under the Coastal Location Acceptability Method may result in a conflict over the "taking" issue, which has quietly influenced CAFRA decisions in the past. In recognition of interest of the property owner, the Monmouth County Environmental Council has long advocated the concept of transfer of development rights and tax abatements for wetlands.

The State and county are in basic agreement over the basic principles of coastal land use as defined in the Coastal Management Program--Bay and Ocean Shore Segment. For this reason, most of the discussion concerning policy consistency has been devoted to county and municipal plans. The county does feel, however, that the State's protection of wetlands and floodplains has been inadequate. Greater consistency is needed, also, with existing Federal programs. While the Army Corps of Engineers has been more restrictive in controlling wetland development, the Federal Flood Insurance program has encouraged further development of the floodplain. These issues are discussed in further detail in the Planning Board statement on the Coastal Zone Management Plan (Appendix C).

Recommended Changes in Municipal Development Ordinances

The following are recommendations for improved land regulation at the local level. Many of these recommendations were previously put forth in the Natural Features Study for Monmouth County, April, 1975 (see Appendix D). To see which towns have the following types of land regulation, see Table 12.

1. Where sewers are available, cluster development should be encouraged to conserve land and preserve environmentally sensitive areas.

   Suggested Municipalities with Undeveloped Lands Which Could Benefit from Cluster Development

   Brielle Borough
   Hazlet Township
   Holmdel Township (Northern Portion)
   Little Silver Borough
   Neptune Township
   Rumson Borough
   Shrewsbury Borough
   Spring Lake Heights Borough
   Wall Township (Sewered Portion)
   West Long Branch

2. Larger developing municipalities or municipalities with a large percentage of undeveloped land state should encourage Planned Unit Developments (PUD's) and Planned Residential Developments (PURD's or PRD's) in order to concentrate development and conserve land and open space.

   Suggested Municipalities

   Aberdeen Township
   Holmdel Township
   Middletown Township
   Neptune Township
   Ocean Township
   Shrewsbury Borough
   Wall Township

3. High-rise development should be prohibited from all areas east of the first public roadway closest to the bay and ocean coastlines and discouraged within 1,000 feet of the bay and ocean coastlines.

   High-rise development, in general, should be limited to areas where it is currently present in Asbury Park and Long Branch and discouraged in other areas to the coastlines.

   "high-rise apartments do have a place in the urban design, but many projects in Monmouth County have tended to destroy the natural vistas. . . . this is most prominent along the coast

where high-rises have been built only one block in from the ocean . . . . this destroys the vista and the possible use of the beach . . . . since high-rises are tall, they should be placed many blocks in from the ocean . . . . the view for the residents is just as commanding, while letting others enjoy the same . . ."--Multi-Family Housing Report, MCPB, 1973.

4. It is recommended that ocean beaches be kept open for recreational purposes.

5. Municipalities should be strongly encouraged to provide for the protection of critical environmental areas. Such critical areas include steep slopes, fresh water wetlands, archeological sites, floodplains, etc.

   Municipalities should be strongly encouraged to limit construction and landfilling in floodplains. Such activities not only destroy a valuable natural resource, but also create a serious flooding problem and damage to downstream owners. Floodplains perform several other important functions, including groundwater and aquifer recharge; preservation of areas for recreation, aesthetic buffers, and wildlife habitats; and maintenance of surface water quality through the filtration of stormwater runoff.

   It is recommended that stream floodplains be reserved for regional recreation and watershed purposes, as set forth in the Monmouth County General Development Plan.

6. Municipalities should provide for tax abatement for owners of state-mapped wetlands. Since the land has little or no development value, owners should not have to pay heavy property taxes on such lands.

7. Municipalities should adopt soil erosion and stream sedimentation ordinances to protect against flooding and stream degradation.

8. Municipalities should adopt tree removal and soil removal ordinances to protect land and streams against erosion caused by removal of trees, etc.

Shore Protection and Beach Access

With the sale of bay and ocean riparian grants in the 1800's and 1900's, the State unleashed a wave of development which replaced dynamic, yet adaptive, dune environments with summer and year-round residences. While the early fishermen's structures were often constructed for temporary use and abandoned in winter, others which were built to last also succumbed to the forces of the natural erosion process and battering storm waves. Presently, 26.3% of the State's oceanfront is privately held by owners of the dry sand above the mean high water line. Below the line, grants have been issued for 38.3% (linear distance) of the shoreline. The corresponding figures for Monmouth County are 35.2 and 29%, respectively (New Jersey Beach Access Study Commission Report, August, 1977).

The policies proposed by the State would strongly discourage additional development in the high-risk erosion zones unless it is water-dependent. The Planning Board agrees that present problems should not be compounded by continuing unsound development in vulnerable areas. We also support policies which promote public access along formerly restricted areas, providing equitable arrangements are made with the owners of shorefront property. While it is true that millions have been spent to protect small yet tenacious communities along the coast, the opportunity to live in beachfront housing was offered by the State to homeowners who still contribute to the municipal tax base. The questions of shore protection and public access are ones of great interest and concern to the public and dominated the three workshops held by the planning staff during the Coastal Coordination Project. The issues are closely related and involve practical and philosophical differences which have not been resolved. The concerns will also be addressed in future recommendations resulting from a Planning Board study of shoreline changes and land use on the oceanfront. At the present time, shore protection funding is provided by the Federal, State (matching funds), and County (often 10 percent of the local matching funds) governments. The State is presently preparing a shore protection master plan which should develop a comprehensive approach to the problem and encourage interlocal cooperation.

Large sums have been spent on the construction of groins and jetties which redistribute the patterns of erosion and deposition but do little to halt the northward drift of sand. Are the costs justified? The problem can be viewed from several perspectives. While much has been made of the necessity to maintain the Route 36 highway from Monmouth Beach to Sandy Hook, one could point to the existing transportation links between the Highlands and Rumson headlands and take the historical view that the barrier has already been breached by the water several times in the past. In this sense, the highway performs a local function, and the sanitary sewer line is connected to only one other mainland municipality. At the same time, the residents of the coastal region have a valid interest in protecting property and providing broad beaches. The highway does provide access to a major urban recreation area--Gateway at Sandy Hook--and several studies have been conducted on the impacts and costs associated with alternative means of protecting the south beach area of Gateway. At the public hearings, most testified in favor of the simple beach nourishment alternative. The least costly alternative, it is a necessary element of each structural solution proposed, since none would be viable without a beach to absorb wave energies.

In another proposal, the Army Corps of Engineers outlined a $95 million program of structural work and beach nourishment along the ocean from Island Beach State Park to Sandy Hook.

The Planning Board favors beach nourishment over structural solutions. This approach would involve a large initial investment for the reconstruction of severely eroded beaches and an annual maintenance program.

The Shore area should provide a variety of experiences. While it is unfortunate that the beachfront is almost entirely developed, typically with uses that are not coastal-dependent and without regard for the value of a natural dune system, public or private bathing facilities and resort areas do meet certain needs. In some areas, however, they are among the few areas which

permit access to the public and can, themselves, impose certain restrictions by charging fees for such nonessential facilities as pools and expensive bathing pavilions. Private beaches pose a more difficult problem. An equitable resolution must be found to the conflict between the public's "natural" right-of-access and the reasonable expectations of the taxpaying beachowners.

The courts have applied the "equal protection" clause of the Constitution and Public Trust doctrine in their holding that the public has the right of unrestricted access to the "wet sand" below the mean high water line. In a case involving two Monmouth County municipalities, the State recently argued that the definition of public trust lands should be extended to include all sandy beaches and changing facilities where local ordinances prohibit beach attire on city streets. The courts have also ruled that the admission fees for residents and non-residents must be equal.* The DEP's Office of Shore Protection, as a general policy, now requires municipalities to purchase all private beaches within their boundaries before any funds will be granted for major protection work. Exceptions have been made based on the local fiscal situation, the extent of the work, and the extent of structures built with State and Federal monies in the past.

Considerable concern has been expressed over specific access requirements imposed on riparian landholders. The courts have not considered the issue of access across the privately held upland to the mean high water line. There are a number of legal and practical issues which are unresolved, and the State should clarify its position on the following questions: Should private owners have the same rights granted the municipalities to establish control regarding litter and safety (when they are personally liable for personal injury) over their property? Why is it that riparian holders who construct physical structures in the water (limiting its use) may control riparian access but not those who have not built? What of the inevitable use of private dry sand adjacent to municipal rights-of-way which terminate at the pierhead line? (See public comments in Appendix .)

The State's desire to dedicate the entire beach for public use is a worthy and important goal. Private owners should be compensated, however, and it is hoped that matching funds be made available for acquisition under the 1972 Federal Coastal Zone Management Act. The New Jersey Beach Access Study Commission recommended that the DEP identify areas where access is impeded by particularly long stretches of privately owned land and suggested that Green Acres funds be used to match Federal grants.

There is a real difference between permitting greater beach use and actively promoting it, as has been done at Sandy Hook. Such efforts involve improved mass transit or greater parking facilities and impose additional demands on local government. If beach use were to be encouraged, then the

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*The DEP's Division of Marine Services publishes an annual guide to New Jersey beaches which lists beach fees and hours, activities, and facilities. Seasonal fees range from $7.00 at both the County and Long Branch beaches to $50.00 at Deal and Allenhurst. Admission is free at Gateway National Recreation Area and at Keansburg.

various levels of government would have to work together to provide the required services. Fishing and crabbing in the estuaries are also important forms of recreation and will be encouraged by the resource policy which requires the construction of fishing catwalks and platforms on new or improved bridges.

RECOMMENDATIONS FOR ADMINISTRATIVE REGULATORY OR LEGISLATIVE REFORM

Proposed Administrative and Regulatory Reform

Some changes in the CAFRA rules and regulations would be necessary to administer the CAFRA subzones A and B as proposed in the previous section. These changes would mainly relate to the proposed strengthening of the land use regulation within subzone A and relaxation of land use regulation within subzone B. It is not recommended that the current DEP review policies be radically changed. The Coastal Location Acceptibility Method (CLAM) would still be applicable as would the criteria set forth in the Bay and Ocean Shore Segment report.

The main changes recommended for the CAFRA rules and regulations would relate to the principal reviewing agency. It is intended that the CAFRA program would largely be administered on the local level. This local administration would consist of a joint county/municipal cooperation. The State DEP would maintain a broad overall authority (in case a county or municipality abused the legislative intent by issuing indiscriminate permits or exemptions). In such a case the DEP could void county regulatory authority until such time that the County agreed to enforce the CAFRA regulations.

Before any county could receive this type of review and approval authority, there would have to be some type of cross-acceptance of county master plans with the State Coastal Zone Management Program.
Once this process was completed, the counties could assume full regulatory authority. Of course, the individual counties would have the option not to accept the responsibility of participating in the CAFRA regulatory process. In this case, the NJDEP Office of Coastal Zone Management would continue to review projects just as they do now.

A similar type of procedure could also be worked out on the municipal level with review and enforcement of applications and permits. There would also be the cross-acceptance of master plans. A potential problem with this process operating on the municipal level is that most towns do not have the financial resources to hire technical staff to conduct environmental reviews of the CAFRA applications and environmental assessments. Also, by having thirty-nine (39) municipalities setting up mostly identical programs there is much overlap and waste of resources. It does make sense too, for the county to participate in this type of activity because the county government is more interested in an responsible to the local municipalities.

With this type of county level CAFRA zone regulation, a central permit clearinghouse could be maintained on the county level. The county would coordinate all permit activities, including stream encroachments, wetlands, riparian, waterfront development, etc. The ideal way to implement this would be to institute a "one-stop" permit process for all regulated activities within the coastal zone. In 1976, the Monmouth County Planning Board proposed this concept to the DEP and still strongly supports it. The 1976 Planning Board statement is included in Appendix C.

All projects (both public and private) would be reviewed and coordinated by the county permit clearinghouse and could possibly follow the following sequence of steps for a given proposal:

1. Applicant inquiry to county as to which permits are required for project.
2. Optional pre-application conference between county and applicant (municipality would be invited to sit in).
3. Applicant would file one (1) application (even if several permits were required) including any required environmental impact assessments.
4. County Review of application including hearings (if required).
5. Approval or denial of project.

Funding for this type of activity could come from the CAFRA, stream encroachment or other fees. Instead of the entire fee going to the State Environmental Services Fund, a portion (we recommend one-half to two-thirds) of the application fees would go to the county and/or municipal level.

With this type of regulatory policy in effect, both the regional and local aspects of coastal management could be administered in an intelligent and equitable manner.

Proposed Legislative Reform

In order to implement recommendations for changes in CAFRA bounderies and management policies, several changes will have to be made in the original act (P.L. 1973, Ch. 185), as well as, the other natural resource regulatory acts in effect in the coastal zone. These changes are recommended as follows:

1. Proposed CAFRA boundary changes to include a Subzone A and Subzone B.
2. Legislation which would consolidate CAFRA, riparian, wetlands, stream encroachment into one coastal zone permit process. The legislation would not eliminate any particular regulatory act (such as wetlands or stream encroachment) but would eliminate the need for multiple applications and permit fees. The one permit fee would be based on the size of the project and the number of regulatory acts involved.
3. Legislation which would authorize county governments to administer the coastal zone permit process (discussed previously).
4. Legislation which would allocate a portion of natural resource regulatory fees (such as riparian, wetlands, CAFRA, etc.) to the county governments actively involved in the coastal clearinghouse process.

IV. county planning board office as coastal clearinghouse

A REVIEW OF MUNICIPAL EXPERIENCE WITH THE COUNTY AND STATE

The responsibility for liason with the municipalities on environmental matters rests with the Monmouth County Environmental Council, an advisory body to the Monmouth County Planning Board. Through its staff provided by the Planning Board, the Council has reviewed many applications for development and provided assistance to the local environmental commissions as requested. It also publishes a newsletter. While coordination with many commissions has never fully developed, the Council has worked closely with a number of others. As noted earlier, the Council places a high priority on strengthening its relationship with the local governments and on encouraging the passage of special ordinances to protect the environment. It is the policy of the Council to confer with the local environmental commission on all applications reviewed by the staff.

During the State County Coastal Coordination Project, the State and Federal governments held a hearing on the Draft Coastal Zone Management program in Toms River, and three regional workshops were conducted by the Planning Board to discuss county-municipal recommendations. While considerable interest was shown by conservation groups, developers, and interested citizens (see Appendix F), there was very little official representation from the municipalities. A fourth and final workshop was held in September to discuss a draft of this report. The planning staff was pleased by the active participation of those in attendance and received important input on a number of issues, particularly the questions of shore protection and beach access, which will guide the staff in future studies. While the present analysis does not reflect all of the oral and written comments received during the project, the Appendix in which they are recorded should be regarded as an integral part of the report.

At the third workshop in particular, it became apparent from the comments of the public and Bayshore environmental commissioners that the CAFRA review process is generally unknown, misunderstood, or poorly coordinated with the review at the local level. A number of citizens who complained of past approvals by the State were unaware of the public hearing held for each CAFRA proposal. The environmental commissions expressed concern over the impact of local planning board approvals on CAFRA decisions for projects reaching the planning board before the DEP, since the towns have less control over development. The suggestion was made that the acceptance of applications as complete for review by the local planning boards be conditioned on prior approval by the DEP. It should also be made clear that approval by DEP does not mandate approval by the local government.

Although the Coastal Location Acceptability Method has been revised in an effort to improve the predictability of the CAFRA decision-making process, the Coastal Management Plan is not intended to serve as a master plan for the shore. The criteria used in reviewing development proposals are based on the various natural features and development potential of the particular site. The lack of extensive mapping by the DEP makes it difficult to relate the probable patterns of development permitted under CAFRA to the existing local zoning map. This problem may contribute to the poor response from municipal officials. Local natural resource inventories and better mapping by the DEP would provide a better basis for future municipal zoning. Future coastal

management and planning should, through meetings, newsletters, and other forums, focus more on issues of immediate concern and emphasize the positive benefits resulting from land and water management. The summaries of the CAFRA projects in Monmouth County to date (Appendix E) provide an insight into the concerns which have been addressed in the past.

The many issues and conflicts raised in the previous sections will not be settled in a county planning report. As stated in the Introduction, the report is intended to serve as a springboard for discussion on improving the state, county, and local partnership.

EXPERIENCE IN COMMENTING ON DEP COASTAL PERMIT APPLICATIONS

The Coastal Area Facility Review Act (P.L. 1973, Ch. 185) requires construction permits for most major construction activities in the coastal zone. The regulated uses include industrial facilities (including incineration and storage); major housing projects; electric power generation; and public transportation and sewerage facilities, including sewer line extensions of more then 1200 linear feet to housing developments of more than 25 units, large parking facilities providing 300 or more spaces, and the construction or extension of roads or more than 1200 linear feet. In the four years since the Act became effective on September 19, 1973, a total of 27 applications were received for facilities in Monmouth County. Approval was granted for 864 dwelling units. A breakdown of the proposed uses and decisions rendered is given in Appendix E. A summary of the wetlands decisions is also provided.

The Planning Board Staff has located a number of the CAFRA applications submitted up to July, 1978, and those wetland applications reviewed by the staff. The summaries in Appendix E describe the nature of each project, critical environmental issues, Planning Board comments and DEP action. Since the commencement of the State County Coastal Coordination Project in April, the staff completed reviews of two CAFRA and three "Type B" wetlands projects, indicated by an asterisk.

The DEP has generally controlled CAFRA development by requiring site plan designs and redesigns which are compatible with the natural environment and through the enforcement of performance standards. In this respect, the Department perhaps exerts its greatest influence by only approving projects which, by some standards, could be considered model developments. A closer involvement of the local planning in the review process might strengthen this role. The history of permit decisions does not reflect a restrictive decision-making process. Of 27 applications considered through September 19, 1977, 20 were approved, 1 denied, 4 pending, and 2 cancelled (Appendix E). The denial involved 500 more motel units and a marina on wetlands on Shark River Island. Since September, applications for two additional residential projects in Hazlet Township were denied under CAFRA for a total of 100 single-family units. One was revised and received approval for three fewer units (54) to allow buffers. The other applicant was also urged to submit a revised plan suggested by the DEP. During this period, a wetlands application was approved for a 8-home subdivision in Rumson, the first permit in Monmouth County for housing construction on a tidal marsh. An application for a marina in Middletown was denied.

In its recommendations to the DEP, the Planning Board has generally suggested alternative uses or densities on the suitable subareas of sites with unique of sensitive land and water features. In some cases, we have proposed ways to preserve an entire tract. Our comments in the past have been based upon such concerns as drainage, wetlands, specimen trees, the high-risk erosion areas on the ocean shore and steep slopes. The DEP permit conditions have included requirements for

public beach access, deed restrictions on wetlands or the replacement of marshes lost to development, preservation of wooded areas and wildlife habitats, soil erosion and sedimentation control in cooperation with the local Soil Conservation District, the general preservation of the existing topography in road-building, and the preservation of the natural stream channel with well-defined buffers.

During the early years of the CAFRA program, the staff workload permitted the Environmental Council to review applications before the Planning Board Site Plans and Subdivisions Committee according to a checklist of environmental and planning design criteria. Communications between the staff and DEP concerning pending CAFRA applications were frequent and informal and often occurred over the telephone. Eventually, both of these practices lapsed, due to staff limitations, although the county continued to comment on selected CAFRA and wetlands applications.

Recently, the Planning Board has been more active in reviewing CAFRA and wetlands applications and has found the DEP to be quite responsive, in most cases, to our recommendations. On two occasions during the past year, DEP and Planning Board staff persons and representatives from a local environmental commission conducted joint field inspections of two tracts proposed for development. In one case, the DEP encouraged efforts by a number of groups to preserve a potential park and nature study areas on the Bayshore. Green Acres has already committed funds for partial acquisition. Coordination with the Office of Wetlands Management has also been improved, and the Planning Board now receives detailed information on "Type B" wetlands proposals. The planning board will continue to review projects on sensitive areas as time permits and will make an effort to improve coordination with the municipalities and State.

The DEP and applicant forward a number of documents to the counties concerning pending projects. These include notices of pre-application conferences (including an initial assessment of the probability for approval or denial), the environmental impact statements (EIS's), hearing notices, relevant correspondence, the DEP's summary report, and notices of appeal. This informational is very useful and saves considerable staff time spent investigating major applications discovered only through the DEP Weekly or other sources (in two cases, Section 3 Federal review notices). While the CAFRA permit section has generally pursued an effective policy of communicating with concerned agencies, the Planning Board failed to receive an EIS for some seven applications, including projects in Asbury Park, Long Branch, Oceanport Neptune Township and West Long Branch.

The DEP should encourage the adoption of consistent mailing procedures for all projects listed on Form CP-1 (CAFRA wetlands, riparian, sewer, and stream encroachment) and should ensure that copies are delivered to the proper agencies, as required by law. As the office responsible for many aspects of environmental planning in the coastal zone, it would be appropriate for the Office of Coastal Zone Management to assist such an effort. The staff's review of the status of applications in the DEP Weekly regularly turns up numerous applications for which the Planning Board never received a CP-1. While the staff does contact the DEP regarding certain projects, it would not be a productive use of time to track down every project. The project description should include a map de-

picting the project site, like those included with the Army Corps 404 notices. Major applications should include a site plan, as well, since the plats are sometimes not filed with the county until a decision is rendered by the DEP.

In its most recent CAFRA assessment, the staff employed the Coastal Location Acceptability Method. While the process is essentially thorough and sound, it is rather unworkable unless the various site subareas are mapped at a uniform scale by a professional surveyor during the initial engineering studies. Such an analysis would permit the submission of a more acceptable proposal based from the beginning upon the policies of the Coastal Management Program and would eliminate the need for substantial redesign at a later time.

RECOMMENDATIONS FOR FUTURE STATE-COUNTY RELATIONSHIPS

The New Jersey Office of Coastal Zone Management (DEP/OCZM) is nearing the end of a four (4)-year study period to draw up a comprehensive coastal zone master plan. Throughout this study period, there have been public workshops, meetings and seminars where the various study elements have been explained to government officials, public interest groups and the general public. With the completion of the final plan, this phase of the coastal zone program will end.

The final phase of the coastal zone management program involves the implementation and administration of the plan. Over the next several years, the DEP will have to convince the local municipalities, special interest groups and general public that its plan is fair and equitable. Without local support, it is unlikely that the State coastal zone management plan can be effectively and fully implemented. It is quite evident that the Office of Coastal Zone Management does not have the enforcement personnel to monitor every town in the coastal zone for potential violations of approved or unapproved projects. It is unlikely that the State would ever hire fifteen (15) to twenty (20) enforcement officers to monitor the coastal counties for these potential violations.

It is recommended that the existing state-county relationship (that was initiated in January 1977) be continued and expanded in scope. Initially, we recommend that beginning in November 1978, the DEP/OCZM fund the coastal counties to operate county coastal offices. These offices would maintain crucial contact with municipalities, environmental groups and citizens.

As a second phase, we recommend that the coastal county governments be authorized to review, approve or deny and enforce the coastal zone permit discussed in the previous section of this report (pages 54-55). This coastal zone permit would include as elements, as required, CAFRA, wetlands, riparian, stream encroachment, etc., permits.

As mentioned previously, special state legislation would have to be enacted to consolidate the several permits into one coastal zone permit, to authorize county regulation and approval and to allocate a portion of permit fees to the county governments for compensation for the regulatory duties.

If these recommended moves were made, the coastal county officers would need to be state-funded for the interim period beginning November 1, 1978, and ending when the county governments began to administer the coastal program and receive permit fee compensation and/or other renumeration.

appendix

MONMOUTH COUNTY

DATA ON WATERSHEDS

Name	Classification	Area (Sq.Mi.)
Long Neck Creek (Whale Creek)*	Minor	1.72
Lake Lefferts	Major	5.05
Gravelly Brook	Minor	2.98
Mohingson Creek	Minor	2.75
Luppatcong Creek	Minor	2.60
Chingarora Creek	Minor	2.57
Flat Creek	Minor	2.86
East Creek	Minor	2.62
Waackaack Creek	Major	9.06
Pews Creek	Minor	1.67
Comptons Creek	Major	6.58
Ware Creek	Minor	1.75
Wagner Creek	Minor	1.67
Many Mind Creek	Minor	1.48
Highlands Basin	Minor	1.17
Navesink River	Major	87.82
Claypit Creek	Tributary	3.91
McClees Creek	Tributary	4.77
Poricy Brook	Tributary	2.70
Shadow Lake	Tributary	6.68
Swimming River	Tributary	51.37
Pine Brook	Tributary	14.00

Name	Classification	Area (Sq. Mi.)
Shrewsbury River	Major	26.26
Parkers Creek	Tributary	10.24
Branchport Creek	Tributary	8.49
Whale Pond Brook	Major	7.79
Poplar Brook	Minor	3.97
Deal Lake	Major	7.57
Wesley & Fletcher Lake	Minor	1.76
Sylvan Lake	Minor	1.71
Shark River	Major	22.26
Musquash Brook	Tributary	2.46
Jumping Brook	Tributary	5.69
Lake Como	Minor	1.43
Spring Lake	Minor	1.33
Wreck Pond	Major	11.31
North Branch	Tributary	0.56
Wreck Pond Brook	Major	7.83
Hannabrand Brook	Tributary	2.92
Stockton Lake	Minor	2.65
Manasquan River	Major	65.57
Mingamahone Brook	Tributary	11.67
Marsh Bog Brook	Tributary	4.87
Yellow Brook	Tributary	3.52
Bear Swamp Brook	Tributary	1.66
Squankum Brook	Tributary	2.32

Name	Classification	Area (Sq. Mi.)
Metedeconk River	Major	31.08
North Branch	Major	27.28
South Branch	Major	3.80
Toms River	Major	4.19
Crosswicks Creek	Major	26.09
Doctors Creek	Major	18.96
Assunpink Creek	Major	13.42
Rocky Brook	Major	7.37
Millstone River	Major	11.84
Manalapan Brook	Major	19.04
Matchaponix Brook	Major	37.20
Weamaconk Creek	Tributary	6.79
McGilliards Brook	Tributary	14.34
Pine Brook	Tributary	4.75
Barkleys Brook	Tributary	1.94
Deep Run Brook	Tributary	8.47

Source: Water Supply and Sanitary Sewer Facilities, Monmouth Coastal Region Region (MCPB, 1961).

COASTAL ZONE USE POLICIES

Source: New Jersey Coastal Management Program, Bay and Ocean Shore Segment and Final Environmental Impact Statement, August, 1978, pp. 115-146.

Housing development on the Water Areas and Natural Water's Edge is prohibited. Clustering is encouraged, as is housing which provides for a mix of different dwelling types and for residents of different age and income groups. Locations and densities favoring public transportation are encouraged. Demolition of existing structures is discouraged. High-rises are acceptable (and encouraged in high density areas) if: (1) structures near the water are separated from the water by a road or equivalent park distance, are oriented perpendicular to the beach and water, and do not overshadow the beaches between May and October; (2) they are compatible with surrounding heights and residential densities; and (3) they do not adversely affect traffic and air quality. Hotel-motel development is discouraged in most areas but is conditionally acceptable if it promotes public recreational use of the coast in existing resort-oriented areas and is visually compatible with the surroundings.

Resort/Recreational uses which serve large numbers of people of all ages (including the handicapped) are accorded the highest priority in the Bayshore Segment and shall be incorporated into the design of residential and industrial development. Development adjacent to the water must permit waterfront access. New marinas are acceptable (and those which provide primarily for sail and row boating encouraged) if: (1) they serve a demonstrated regional demand which cannot be met by upgrading or expanding regional facilities; (2) they provide dry storage areas, public launching facilities, berthing spaces, and pump out facilities for wastewater disposal; and (3) they cause minimal interference with the commercial boating industry. Existing marina expansion, particularly that involving the dredging of dry land, is encouraged by limiting non-water-dependent uses that preclude boating facilities.

New amusement piers are discouraged in areas with riparian grants but are otherwise prohibited. The expansion or onsite improvement or repair of amusement piers, parks, or boardwalks at the water's edge or in the water is discouraged unless there is no conflict with aesthetic values, ocean views and public access, and other beach uses and unless the community can adequately handle the anticipated use.

Energy. The Department of the Interior has advised that the State's existing and unused refinery capacity will be adequate to process the estimated yields of the Baltimore Canyon, assuming a concurrent reduction in imports. New Jersey has five of the ten existing refineries in the Mid-Atlantic region, and applications for new refinery permits are not anticipated. Nonetheless, major OCS energy production and support facilities are directed to the built-up areas outside the Segment. Only coastal-dependent marine terminals, pipelines, and (for economic and technical reasons) gas processing plants and required compressor commercial stations will be permitted. Gas processing plants between the pipeline landfall and transmission lines will be excluded from the coastal zone to the maximum extent feasible and will locate close to existing petrochemical

facilities and at maximum distance from the shoreline. LNG facilities are discouraged in the Bay and Ocean Shore Segment unless strict criteria are met.

Pipelines will be limited to the maximum extent feasible, should avoid areas such as geological faults and fish and shellfish habitats, and must be located along existing rights-of-way whenever possible. They will be prohibited from the DEP's 760-square mile Pine Barrens "Critical Area."

Tanker terminals will be discouraged in the Segment and encouraged in the Ports of Camden/Philadelphia and New Jersey/New York. OCS-related hydrocarbon storage will be prohibited on barrier islands and discouraged elsewhere in the coastal zone.

Electrical-generating facilities are conditionally acceptable provided that the proposed location and design represents the most feasible and prudent alternative and provided that the facility meets a demonstrated energy need. Fossil fuel stations will not be located on sites which are important for open space or recreation purposes.

New Jersey has two nuclear energy facilities and four under construction. The six together will constitute one of the greatest concentrations of nuclear power generation in the nation. Future generating stations will be located in low-density areas and will not be approved unless a safe method for the disposal of spent fuel is proposed.

Energy facilities which employ renewable forms of energy are encouraged.

The Public Facility use policies require a demonstration of need for new or expanded facilities and the consideration of alternative technologies (which must be impractical or infeasible when measured against the proposed use). They also emphasize the need for recycling conservation and mass transit and the desirability of recharging the groundwater supply. The policies establish conditions for the approval of transportation facilities, water supply and sanitary sewerage systems, and landfills. Bicycle and footpaths are required for residential developments and fishing catwalks and platforms for new or improved bridges.

Port-related development and marine commerce will be acceptable in established port areas where the existing facilities are inadequate.

Shore Protection (Coastal Engineering). Dune restoration and beach nourishment are encouraged. Structural solutions will be permitted only where the non-structural approach is impractical or unfeasible.

Industry and Commerce. In view of the Segment's sensitive land and water features and limited areas of available land, the policies are restrictive. Coastal-dependent uses are encouraged adjacent to existing sites and acceptable in new areas only if the development can demonstrate a high jobs/acres ratio and poses no conflict with coastal resort-recreation uses. Associated major parking lots and structures are conditionally acceptable. Paved surface should be minimized.

Mining operations on land with approved reclamation plans are conditionally acceptable only in sites adjacent to current operations or to probable locations of mineral resources on nearby sites. The conditions include a requirement for detailed reclamation plans. Mining operations are exempt from the Land Areas policies.

Appendix C

Statement on the

NEW JERSEY COASTAL MANAGEMENT PROGRAM-BAY & OCEAN/SHORE SEGMENT

and DRAFT ENVIRONMENTAL IMPACT STATEMENT of

May, 1978

Prepared by:

The Monmouth County Planning Board
1 Lafayette Place, Freehold, New Jersey 07728
July 1, 1978

Prepared under the terms of contract to the New Jersey Department of Environmental Protection, Office of Coastal Zone Management, with financial assistance under the provisions of Section 305 of P.L. 92-583, Coastal Zone Management Act of 1972.

The Monmouth County Planning Board appreciates the opportunity to comment on the revised Coastal Management Program and applauds the Department of Environmental Protection for preparing a balanced, comprehensive plan for the wise management of coastal resources. The Planning Board reviewed the Program as originally proposed in September, 1977, and continues to support the Department's basic policies, which favor the protection of the coastal ecosystem, the energy-efficient concentration of development and preservation of open space, and the redevelopment and reuse of existing developed areas. We also like the emphasis on coastal- or water-dependence in particularly sensitive land and water's edge areas and the high priority assigned to recreational and resort-oriented uses.

The revised Program is greatly improved. It is much better organized and states clearly which uses are acceptable and which are prohibited in various categories of water, water's edge, and land types. If a use is conditionally acceptable, it outlines the criteria required for approval. The Coastal Location Acceptablility Method (CLAM) used to determine development suitability for a specific use has been transformed from an obscure methodology to a planning process useful to the developer and planner alike. It is an approach which considers both the sensitivity and development potential of a site. The Program seeks to limit administrative discretion and increase the predictability of the decision-making process. CLAM will help achieve this goal. By preparing a composite map of the onsite land and water subareas and consulting the Bay and Ocean/Shore Segment to determine permitted uses and applicable standards before the preapplication conference, the developer can save considerable time and expense by avoiding the need for major redesign.

Many have expressed the view that the DEP lacks an adequate data base and inventory of sensitive areas for intelligent coastal decision-making. The federally-funded mapping project to commence after Program approval will identify development-suitable areas throughout the State's coastal zone and will permit a more positive, creative planning effort by the DEP.

The Planning Board supports the Special Water Areas guidelines under the Location Policies concerning shellfish beds, surf clam areas, prime fishing areas, finfish migration pathways, submerged vegetation, navigation channels, shipwrecks, and marine sanctuaries.

While we are in general agreement with the uses permitted in the basin and channel Water Areas, particularly those favoring beach nourishment, several revisions are suggested. The maintenance dredging of lakes and ponds should be conditionally acceptable rather than prohibited. While we strongly oppose the wholesale channelization of streams, stream clearance should also be regarded as conditionally acceptable, and mosquito control commissions and agricultural operations exempt from the permit requirement. In Monmouth County, a Drainage & Waterways Agency coordinates stream cleaning work and assists the Mosquito Control Commission with its permit applications. The county mosquito commission should operate under revocable authority according to DEP guidelines. Farmers would continue to cooperate with the local Soil Conservation District in developing best management practices.

We also recommend that the channel construction of dams and impoundments be discouraged rather than prohibited to permit the development of public potable

water supplies and, in extreme cases where a nonstructural approach is impractical or unfeasible, flood control structures.

The general prohibition against filling in coastal waters should not include the grading and planting of new wetlands in nonsensitive water areas, which is encouraged in the Program. The Planning Board supports continuation of the requirements that degraded wetlands be restored as a development mitigation measure and, in comments on nonresidential applications in the past, has generally recommended the replacement of destroyed wetlands even in existing developed areas. We are pleased that only water-dependent uses will be permitted on the coastal wetlands, in a policy which prohibits further residential development on the wetland areas. The DEP should complete its delineation of the State's wetlands and coordinate its permit program with the Army Corps of Engineers.

Most of the Special Water's Edge and Land Areas policies provide an added measure of protection for the unique and sensitive or unstable areas (including prime agriculture lands) which are not in the more general categories.

The High Risk Erosion Areas policies will prohibit development in the most hazard prone areas of the coast and discourage occupation of the areas in a 50-year erosion zone. Development is prohibited on the coastal dunes and inside stream heads, circular areas at the origin of the streams, when it would interfere with their natural discharge function.

The Barrier Island requirements should be more closely correlated with the Erosion policies. The present Program would permit continued high-density development across virtually the entire width of the barrier, from the upper wetlands boundary to the back of the seawall in a Central Barrier Island Corridor. While facility siting would remain subject the erosion rules, a more cautious approach should be taken. The definition of dunes as "formations of partially stabilized, vegetated, drifting sand..." suggests that the eastern boundary of the Central Corridor in natural areas, at the foot of the most inland dune, has been defined inadequately. Undeveloped barriers islands should remain in their natural state.

Of floodplains in general the Program states: "Intensive development of floodplains leads to increased runoff, reduction in flood storage capacity, increased size and frequency of downstream flooding, erosion of stream banks and downstream deposition of sediments with consequent reduction in estuarine productivity." The Monmouth County General Development Plan designates floodplains as conservation and drainage areas, and the Planning Board agrees that non water-dependent uses should not be permitted on the Upper Water's Edge. Although the Upper Edge corresponds closely with the flood-prone area, the two areas are not the same, and the Flood Hazard policies for the Segment based upon the State stream encroachment and Federal flood insurance laws, which have not been very effective in limiting floodplain development. The Federal flood insurance program, in fact, increased encroachment by subsidizing new home-owners locating in the floodplain. Hopefully, approval of the Bay and Ocean/Shore will result in improved Federal consistency with the Upper Water's Edge policies of the Program, and will stimulate better control at the State level after a more extensive delineation of the coastal streams.

While the need to protect the quality of the groundwater and to promote aquifer recharge is discussed under the Resource Policies, there are no location policies for the outcrops of important aquifers.

The Land Acceptability factors consider the development constraints and advantages of the natural and built-up environment. Special care should be taken to insure that the sensitivity definitions for the vegetation index do not reward the clearance of forested land, particularly on fertile soils in cases where development is not contemplated for some time and, hence, not clearly associated with development under Ch. 251 (Soil Erosion and Sediment Control Act).

Development Potential criteria will help to prevent sprawl and unneeded development by considering the site's proximity to roads, railroads, water supply and sanitary sewer facilities, schools, and similar uses (infill characteristic).

The Planning Board supports the housing Use Policies including those concerning high rise constrjction, which is prohibited east of the ocean front road or equivalent park distance. The county's General Development Plan designates these areas for public or quasi-public use. For this reason, and because five-story, four-story and even single-family detached units have the same effect of preventing uninterrupted or uninhibited visual and physical access to the beach, the prohibition should be extended to all non-recreational development of the ocean front. Applications for high rises on the block west of the ocean highway should be reviewed with particular care, especially in low-density, low-profile communities which, in any case, do not meet the stated conditions for acceptability under the Management Program. The CAFRA permit section should make a special effort to identify areas in the more urban resort communities where such development would be encouraged and should spell out the probable consistency impacts of the Program with respect to Federal decisions for these areas.

The Planning Board is encouraged by the Resort/Recreational Policies which stress that those facilities which are approved shall provide equal opportunity access to large numbers of people and offer the full range of services or opportunities appropriate to the use. Marinas approved on wetlands should use the land as efficiently as possible by employing such techniques as vertical dry-dock facilities, use of summer parking areas for the winter storage of boats and the construction of sales and snack bar facilities as second stories over water-dependent uses.

The Planning Board agrees with the DEP's contention that onshore energy facilities associated with offshore oil development should be located outside the Segment in existing, built-up areas. Although the DEP permit process requires simplification, the Planning Board feels that the DEP should possess the power to veto unacceptable siting decisions by the DOE. In addition, the DOE should not overrule siting decisions made at the local level unless such policies are clearly obstructionist and interfere with the location of a pipeline or other corridor. The Program's position on nuclear power plants is supported by the Board of Chosen Freeholders in a 1976 resolution urging the prohibition of future plants "within or without the State or in its adjacent land and sea areas as being...detrimental to the health, safety and well-being of the people..."

The Planning Board has long favored the nonstructural approach to shore protection and is pleased by the document's preference for beach nourishment over groins.

As the CLAM Method involves both the advantages and disadvantages of a site, mining operations should not be exempt from the Location Policies.

A number of the Resource Policies have considerable merit: the provision for silt removal in detention basins, use of native species in landscape plans to promote fertilizer and water conservation, consideration of aesthetic values, concern for the worker environment in industrial/commercial sites, and use of barrier-free design for the handicapped in developments of 250 or more units.

The guidelines should specify the type of treatment required for the stormwater runoff from the pavement on intensely developed sites. The DEP demonstrates flexibility in permitting more concentrated building coverages (with no change in the minimum vegetated areas) where pervious pavements are employed, thus fostering a more efficient use of land on suitable sites.

In some cases, the cluster developments favored by DEP involve higher densities than those allowed by the township on subareas of the project site. The Department's willingness to provide a rationale for the cluster concept before the municipal body demonstrates a cooperative spirit. The inclusion in the Program of sample site plans for the various residential density types and plans for improved mapping will help the developer. Monmouth County already has a Development Suitability Map and Unique Areas inventory, (in the Natural Features Study) which is presently being updated. Although we agree that the wetlands should be designated as a generic Geographical Areas of Particular Concern, those areas previously nominated should continue to receive special consideration.

The adoption of a single set of administrative rules for the CAFRA, wetlands, and riparian elements of the Coastal Management Program is a step toward simplifying the review process. The Planning Board does not favor decision-making on development applications by a single group but does believe that only one application should be required for any proposed project. The DEP would than circulate the application among its various divisions.

The preapplication conference provides an excellent opportunity for the developer and DEP to explore new technologies and design concepts on suitable lands. The Program, for example, encourages the use of renewable sources of energy. The sea breezes of the coast could be harnessed for wind energy. The road system of the solar-heated subdivision could be oriented primarily in the east-west direction, with solar easements provided for each unit; and the basements, roofs, and parking lots (covered) of public facilities and shopping centers would provide areas for heat storage and solar collection.

One of the significant obstacles to the concentration of development and preservation of open space in the past has been the DEP's general unwillingness, even in the nominated Geographic Areas of Particular Concern, to deny CAFRA applications (although the required performance standards usually result in better projects). To channel development to some areas, one must prohibit it in others. By defining more clearly what constitutes an effective use and increasing the predictability of CAFRA decisions, the new policies, improved cooperation, suggested alternatives, better mapping, and the preapplication conference will all help to avert the difficult decision to deny proposals that are not infill. Farmland preservation schemes, lowered wetlands assessments, and TDR would reduce the importance of the taking issue.

In cumulative impact of residential construction on the coast of less than 25 units remains a problem. A strict application of the Public Facility policies will help to guide such development in the future. The Planning Board is presently evaluating the appropriateness of existing coastal zone boundaries and adequacy of the State legislation and will forward recommendations to the Office of Coastal Zone Management.

The Planning Board has worked with OCZM staff on a number of projects and appreciates the cooperation shown in the past. The present State-County Coordination Project, which requires a review of local master plans and zoning ordinances and meetings with local officials, should also help to provide for sound development

which respects the natural environment on the coast.

The Planning Board sees the Bay and Ocean/Shore Segment as a major step in achieving this goal, and looks forward to continued progress in the future.

Note:

The State of New Jersey Coastal Management Program--Bay and Ocean Shore Segment and Environmental Impact Statement was followed by a revised program and final environmental impact statement in August, 1978.

A number of changes have been made. The two special areas groups have been combined into one, with several new categories added. The lower and upper water's edge sections have been combined into a single set of policies. The lengthy land acceptability tables have been broken down into much simpler tables organized according to coastal location (the entire coastal zone in Monmouth County has been included with several other areas in a high growth region). The rationale behind the acceptable development intensity for each combination of development potential and environmental sensitivity has been spelled out in the text. The various water areas have also been reorganized.

Several brief comments are offered in response to the policy changes. We were pleased to note the exemption from the coastal policies given mosquito control work (p. 368) and the more flexible stand on dams and impoundments in exceptional cases. The maintenance dredging of ponds, however, which in some cases is desirable, remains prohibited.

The redefinition of high risk erosion areas (where most development is prohibited) as the extension inland to the first cultural feature, established dune field (including over-wash areas), or area most likely to be eroded in less than 50 years, whichever is the shortest distance, will permit continued development in areas subject to storm surges.

Environmental sensitivity has been redefined in a manner which does consider the soil fertility of sites which have been cleared or which support herbaceous or successional vegetation. Such a policy will help to discourage the premature clearance of sites planned for development.

The Planning Board's earlier comments concerning development on floodplains stemmed from a concern over loopholes in the floodway regulations and floodfringe standards which do more to protect structures than the floodplain. There are no substantive changes in the floodplain policies of the revised program. It is hoped that the definition of the natural water's edge (where development is severely restricted) will be broadened to include the entire floodplain.

RECOMMENDATIONS FOR MUNICIPAL LAND USE MANAGEMENT

SOURCE: Natural Features Study, April, 1975

This report is intended to be a guide for County and Municipal level comprehensive and environmental planning. It is not meant to be the final answer for an ecological-economic union of forces for Monmouth County although it is certainly a step in that direction; with this in mind, the following recommendations are made:

1. All municipalities should make detailed natural features studies and development plans and use this study as a general source guide.

2. Ponds, streams; rivers; federal, state and county open space and wetlands are found to be highly unsuitable for development and should be restricted for such use.

3. Floodplains, swamps and prime agricultural land are found to be unsuitable for development and should have restrictions on such use.

4. A countywide system of linear greenbelts should be established along primary and secondary streams as adopted by Monmouth County in the Open Space Plan. Such a system would serve several important functions, including floodwater protection, groundwater and aquifer recharge, passive and active recreational uses and wildlife habitat preservation.

5. Municipalities should institute cluster, PUD and PRD zoning ordinances with stringent maximum coverage standards.

6. Municipalities should adopt soil erosion and stream sedimentation ordinances to protect against flooding and stream degradation.

7. Municipalities should adopt tree removal and soil removal ordinances to protect land and streams against erosion caused by removal of trees, etc.

8. Municipalities should adopt floodplain ordinances to protect life and property against floodwaters and to preserve and maintain water quality and buffer lands along floodplains.

9. Low lying areas along the Bayshore that are developed should be protected with coastal flood controls. Further building should be prohibited or controlled within the coastal flood zone defined by historic flood levels.

10. In Planning Areas V and VI County agricultural districts (CAD) should be established in areas which contain prime farmlands. Such CAD's would be used only for agricultural purposes and could be set up by means of the transfer of development rights and maintained by reduced taxes on working farms.

11. Low density (cluster zoning, etc.) development should be encouraged on key outcrop areas of the Englishtown Formation in Marlboro, Manalapan, Millstone and Upper Freehold Townships. This would help ensure aquifer recharge and water supply for central and southeastern Monmouth County.

12. Establish protective measures for those areas listed as unique natural areas.

13. Place under State and County Standards those critical areas and phenomena which cross political boundaries, such as streams, floodplains, sediment and erosion control, natural areas in need of preservation to sustain the integrity of an ecosystem.

COASTAL APPLICATIONS REVIEWED BY PLANNING BOARD

Applications received through July 1, 1978 (see Part IV; Experience in Commenting on DEP Coastal Permit Applications):

Aberdeen Township

Aberdeen Township Shore Protection and Recreation Project. Wetlands and Office of Shore Protection. Application submitted April 26, 1976. Planning Board addressed proposal to construct seawall and place beach fill to Whale Creek which would involve destruction of marshes and prevention of their future growth. Would seal off Treasure Lake, eliminating tidal exchange and estuarine conditions and creating mosquito problem. Raised question of wetlands loss several times to DEP and failed to get satisfactory answer. Engineering firm wished to transplant grass but was not feasible. Approved.

Asbury Park

Senior Citizen Housing. CA(FRA Application) #77-0024-5. Twelve-story structure, 221 units, in existing residential area, within walking distance of boardwalk. Submitted January 11, 1978. Accepted as complete March 28, 1978. Approved June 21, 1978, with two conditions: installation of curb cuts for access and sediment chambers in catch basins, with regular maintenance schedule. No county comment.

Atlantic Highlands

Municipal Marina Expansion. CA #75-10-132. Three-hundred thirty additional berths, covered storage for 400 boats, and space for 700 vehicles; provide park at extreme eastern end and relocate some tidal marshes. Submitted October 6, 1977. Accepted as complete on November 29, 1977. Planning Board testified at August 16, 1977 public hearing and recommended approval providing affected tidal marshes were relocated. Conditional approval granted February 22, 1978. Among the preconditions: compliance of the regional sewerage facility with DEP standards, treatment of stormwater runoff, and improvement of the existing breakwater.

*Giuliana Marina. Wetlands #78-0067-2. Mooring basin and launching facilities at the mouth of Many Mind Creek. Submitted December 14, 1977. Accepted as complete May 15, 1978, after two requests for additional information. Project would destroy 0.94 acres of regulated wetlands, and mouth of channel would require continual dredging. Planning Board found the site unsuitable for development and felt regional demand could best be met by expansion of the municipal marina (above). Denied July 27, 1978.

Brielle

Hayward Heaths. One-hundred eighty-eight unit apartment complex on 33 acres of undeveloped, generally wooded land. East side of Old Bridge

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*Reviewed during Coastal Coordination Project.

Road and south of Route 34. Mixed oak woodland predominant and mixed hardwood swamp and woodland. Approved December 17, 1976.

Hazlet

Lembo-Csik Project. CA #75-1-083. Forty-nine single-family dwellings on 13.22 acres (details not provided in EIS). Laurel Avenue. No written record of county comment. Application withdrawn, February 28, 1975.

Marie Manor, at Union Avenue and Helen Lane. Following a cease-and-desist order from the DEP and Freehold Soil Conservation District, submitted CA #77-0184-5 on March 30, 1977. Accepted as complete August 8, 1977, after June 23, 1977 hearing. Denied November 7, 1977. Hearing on a revised plan held March 14, 1978 after an appeal withdrawn. Revised plan approved May 5, 1978 and preconditions met September 7, 1978. Appeal of approval by local Environmental Commission denied on August 31, 1978. Original proposal for 57 lots on 15.7 acres and channelization and culverting of approximately 700 linear feet of headwater stream. Site located in Natco Lake Area, Hazlet's "Pine Barrens Island," with a variety of unique and sensitive features. Nominated by County Environmental Council as a Geographic Area of Particular Concern. Underlain by Englishtown formation, features salt and freshwater marshes, headwater streams, and bird sanctuary. Revised plan involves 51 lots and stream preservation with 50-foot buffers. County opposed the project. Through the various efforts of the New Jersey Conservation Foundation, Hazlet Township, DEP, and the Monmouth County Parks System, Freeholders, and Planning Board, an acquisition program has been developed and Green Acres funds already approved for first phase purchase of the remainder of the area.

Laurel Estates. CA #77-0180-5. Accepted as complete for review September 30, 1977. Fifty-three single-family dwellings on 13.7 acres, 500 feet west of Waackaack Creek. A tributary to the creek runs east-west along and through the southern portion of the site below a steep slope. County took no position on the project, although the staff toured tract with the project reviewer and member of local Environmental Commission. DEP proposed an alternate design providing for "well-defined buffer areas," retention of a stream corridor, "reduced volumes of fill and roadway gradients," retention of the site's rolling topography, and preservation of more wooded area and wildlife habitat. Applicant chose not to accept revised plan. Denied April 13, 1978.

Marc 78. CA #77-0225-5. Forty-one single-family units on 16 acres. Submitted December 15, 1977. Complete for review April 5, 1978. After hearing, toured site with a nearby property owner who expressed concern over increased runoff into stormwater drainage ditch and provided information regarding CAFRA review process. Conditionally approved May 3, 1978. Further study of groundwater discharge required and possible redesign of a detention basin. No county comment. Decision has been appealed by said property owner.

Long Branch

Sea Colony. Originally, three high-rise apartment towers, 414 units. Exempted from CAFRA after lengthy litigation and dispute as to whether excavation prior to effective date of CAFRA law constituted substantial site preparation. Based on a June 15, 1973 site review, the planning staff found the project unacceptable from both an environmental and practical standpoint and later recommended that the towers be located behind the bluffs and reduced in height. The local planning board recently granted the project its fifth extension, and it is anticipated that the project will someday be resumed.

* Seven Presidents Oceanfront (County) Park. CA #78-0250-5. Phase I: construction of a pavilion, dune restoration, outdoor pool, maintenance yard, and 500 parking spaces. Phase II: construction indoor pool-ice rink complex. Park for local and regional overflow needs. Total of 33.2 acres, 16 or more acres beach, 4 acres year-round recreation. Submitted May 5, 1978. June 14, 1978, letter of deficiency from DEP. Planning Board raised certain questions concerning traffic and parking, possibility of future expansion, and use of solar energy but strongly supported project as one which would increase recreational opportunity and improve the visual appearance of the area.

Middletown

* Thousand Oaks. CA #78-0240-5. Submitted March 14, 1978 and later termed incomplete. Hearing scheduled for October 6, 1978. Three-hundred twenty unit garden apartment complex on some 35 acres along Route 36. Tract is mostly wooded, with a number of severe slopes (as a part of Highlands area). Project would involve extensive cut and fill activity on a steep slope in the headwater region of Many Mind Creek. The planning staff forwarded lengthy comments opposing the proposal to the DEP based on a survey employing the Coastal Location Acceptability Method. It was felt that an office building on the relatively flat portion of the site near an old mining area would offer a good economic return while allowing the protection of sensitive areas.

Neptune Township

Shark River Island Proposal. Invited to review by Environmental Commission. No EIS received. Motel-restaurant-marina complex, including 465 boat slips, on 13.5 acres. Planning Board recommended preservation of existing marsh, to be protected with a bulkhead to the rear, and the construction of only 200 slips, to be located instead on the southeastern portion of the site, where better channel access and protection from prevailing winds. Project denied.

Life Care Community for Ocean Camp Meeting Association (Ocean Grove). Two-hundred seventy-two units on 3.9 acres, the site of an old, existing hotel. Submitted March 22, 1977. Letter of deficiency from DEP April 22, 1977. Planning Board letter concerning same, May 2, 1977. Application complete June 27, 1977. Attended hearing August 8, 1977.

Approved November 29, 1977, although project abandoned due to lack of demand for life care units.

Shark River Island Sewers. CA #77-0209-5. Submitted September 14, 1977. Construction of 2696 linear feet of eight-inch sewer mains, 1,500-foot force mains, and a lift station. Serve existing 23 residences, a motel, marina, four restaurants, and five commercial establishments. Secondary impacts limited to a potential 40 homes and five businesses. Complete for filing November 2, 1977. Hearing December 16, 1977. Complete for review December 16, 1977. Planning Board approved of service only to existing land uses. Approved by DEP on February 17, 1978.

Red Bank

Tower Hill Village. CAFRA. Submitted December 14, 1976. One-hundred thirty-two condominium townhouse units on 13.97 acres, two parking spaces/unit, building coverage 16.6 percent. Generally well-drained, 3/8 slope. Planning Board addressed several issues and made some recommendations: issues--effect on municipal groundwater, use of inefficient electrical energy, somewhat higher than recommended density, drainage into so-called Fair Haven retention basin; recommendations--low profile grouping blending into wooded tract, elimination of two six-unit clusters, and preservation of certain specimen trees. DEP was concerned with ingress-egress road system. Approved and under construction.

* Type "B" Wetlands project. #78-0085-2. Submitted March 20, 1978. Twenty-four townhouse units on Bodman Place on a steep slope above the Navesink River. The planning staff recommended that either the bulkhead be moved back from the wetlands or that the wetlands be replanted in front of the bulkhead. Approved September, 1978 on condition that the applicant construct a public dock.

Rumson

* Type "B" Wetlands project. Eight single-family units on 16.89 acres: 8.9 acres wetlands, 3.6 acres wetlands fill, and 5.4 upland fill. Terminus Broadmoor Drive, east of Widgeon Road, on the Shrewsbury River. Submitted July 27, 1977. Requested and received a summary of the DEP staff report. Project would result in "destruction of a unique and environmentally sensitive marsh and lowlands woods" with standing water even during periods of low rainfall. Planning Board recommended annexation of area to existing open space tract owned by Rumson. Wrote to administrator recommending preservation as a wildlife refuge and suggested that the Borough apply to Green Acres or to permit owner to donate land for a tax credit (with the Borough perhaps acquiring half the site). Conditionally approved. One stipulation requires a deed restriction which would preserve the wetlands remaining after construction.

Sea Bright

Brighton-by-the-Sea. CA #74-038-A. Originally 72 one- and two-bedroom condominium townhouses on 4.4 building acres. In October 3, 1974 comments, the Planning Board noted that there was no provision for public access to the 1.6 acres of beach. The staff noted the geological instability of the area and the fact that the entire Low Moor area was inundated in 1962, with Ocean Avenue providing the only means of egress. The building coverage of 30 percent exceeded the County's recommended maximum of 20 percent, and the Planning Board concluded that the project did not represent the best use of land and did not conform with the General Development Plan. Sixty-eight units approved on October 20, 1977. Public access was made a condition of the permit.

Wall Township

Laurel Hill Estates. Submitted April, 1975. South side of Lakewood Drive and east of Manasquan River. Thirty-eight single family units on 38 acres. Some wetlands on the site. Approved April 9, 1976, second permit revised July 20, 1976.

STATE OF NEW JERSEY, DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF COASTAL ZONE MANAGEMENT, CAFRA PERMIT SECTION

CAFRA PERMIT APPLICATIONS, MONMOUTH COUNTY, AS OF September 19, 1977
(Recent decisions are discussed in the text.)

1. Permit Applications

Approved	20
Denied	1
Pending	4
Cancelled	2
Total	27

2. Application Status: Residential Facilities

Approved	10
Denied	1
Pending	4
Cancelled	2
Total	17

3. Facility Type of Applications

Residential	17
Sewage	8
Energy	0
Industrial	1
Other	1
Total	27

4. Application Status Sewage Facilities

Approved	8
Denied	0
Pending	1
Cancelled	0
Total	9

Source: Coastal Management Strategy for New Jersey - CAFRA Area - September, 1977

5. Total Dwelling Units by Type

Single Family Units	252
Townhouses	370
Apartments	816
Hotel & Motel Rooms & Other Units	557
Campsites	0
Total	1995

6. Total Dwelling Units Application Status

Approved	864
Denied	500
Pending	547
Cancelled	84
Total	1995

7. Approved Dwelling Units

Single Family Units	151
Townhouses	204
Apartments	509
Hotel & Motel Rooms & Other Units	0
Campsites	0
Total	864

8. Denied Dwelling Units

Single Family Units	0
Townhouses	0
Apartments	0
Hotel & Motel Rooms & Other Units	500
Campsites	0
Total	500

9. Pending Dwelling Units

Single Family Units	52
Townhouses	166
Apartments	272
Hotel & Motel Rooms & Other Units	57
Campsites	0
Total	547

10. Cancelled Dwelling Units

Single Family Units	49
Townhouses	0
Apartments	35
Hotel & Motel Rooms & Other Units	0
Campsites	0
Total	84

STATUS OF WETLANDS PERMIT APPLICATIONS

DATE: 8/31/77

COUNTY	DECISION	USES							
		Residential	Utility	Recreation	Piers & Docks	Bulkheads	Bridges & Roads	Other	Total
Monmouth	Approved		3	1	2	1	1	3	11
	Denied								
	Pending	1		1					2
	Withdrawn	3	3	1					7
	Total	4	6	3	2	1	1	3	20

SOURCE: Coastal Management Strategy for New Jersey - CAFRA Area - September 1977

NOTE: More recent applications are described on the previous pages of Appendix E and mentioned in the text (Part IV).

COMMENTS ON THE COUNTY RESPONSE TO THE STATE COASTAL ZONE MANAGEMENT PROGRAM

Workshop I: Neptune Township Municipal Building, July 31, 1978, 8 PM.

Robert W. Huguley — Monmouth County Planning Board
David W. Morris, Jr.

Wayne T. Bell, Jr., Neptune Township (Ocean Grove)
Joseph Canaluzzi, Asbury Park Press
Doranne Dimitrakopoulos, Middletown (Leonardo)
Nona Plangere, Monmouth County Environmental Council
Jack Rosenberg, Monmouth County Planning Board

Dimitrakopoulos: Government should acquire tidal marshes from their present private owners in order to protect the marshes from private developers and municipal recreation projects.

It is an unworkable premise to permit public access to the wet sand below private property. We already have two free public beaches (on the bay) in Middletown. There are also public easements at the terminus of the streets leading to the water. The private owners cannot even swim due to the presence of boats in riparian waters. These uses are not compatible.

I have a 125-feet of beach. Would like to place two concrete mooring blocks about 50 feet offshore of present mean high water line to indicate the boundary of my shorefront property. Have been denied a riparian lease on the grounds that I might prohibit swimming. If I were to build a dock on the premises, a lease would be issued.

Huguley: No public money should be spent for shore protection along privately held lands.

Dimitrakopoulos: None has been on our property. I do not wish to build on my property, only to preserve it. Unlimited public access is a violation of the Fifth Amendment; my property rights have been confiscated.

Bell: I am very much in support of the County's recommendations, particularly those dealing with high rises. Our biggest problem is continued small development projects, which fill our open space bit-by-bit. We must look at the Shore as a great asset. If we are to have

more marinas and a cleaner bay at the same time, then we will need a comprehensive recreation plan for the coastal area. I like the idea of the County administering the CAFRA program.

Dimitrakopoulos: Wetlands should be protected wherever possible. They should be fenced off. The environmentalists have been silent on this issue. We are very concerned over certain proposals for development on the Earle Naval site.

Huguley: The Navy has assured us that all of its marshlands will be preserved. The tank farms would be built on the upland areas. Middletown has expressed an interest in obtaining Urban Development Action Grant (UDAG) for a major development project on 200 acres of wetlands.

Dimitrakopoulos: They would also like a 1000-slip marina and recreation complex on wetlands in the Wares Creek area. We would like to see a Wood's Hole-type research facility here instead.

I am also opposed to shorefront high rises. I do sympathize with the problem of the wetlands owner.

Huguley: We support tax abatements to relieve the burden on the property tax payer.

Workshop II: Monmouth County Library, Eastern Branch, Shrewsbury Borough, Sugust 1, 1978, 8 PM.

Robert W. Huguley — Monmouth County Planning Board
David W. Morris, Jr.

Robert Bellantoni, consultant, Little Silver
Harold and Gladys Busteed, Atlantic Highlands
Doranne Dimitrakopoulos, Middletown (Leonardo)
Loretta C. Hanley, Sea Bright Environmental Committee secretary
Laura B. Johnson, Middletown
Harold Lindemann, real estate broker, Eatontown
William H. McCormack, Middletown
John Mulroy, Rumson
Walter H. Pearson, Long Branch
Kathleen Rippere, Monmouth County Environmental Council
Robert D. Spille, trial lawyer, Sea Bright

Spille: Is it the State's policy to confiscate private (shorefront) property?

Huguley: It is not our policy.

Spille & Hanley: We believe that the State should buy back the riparian grants for areas where public access is desired.

Spille: Extension of the public trust doctrine to the dry sand area would be unconstitutional.

Dimitrakopoulos: The statement concerning the Allenhurst v. New Jersey decision (regarding dry sand facilities) on page 309 of the State Coastal Management document is not accurate.

Spille: Gateway National Recreation Area enforces a policy of restricted access. Government agencies should organize to formulate an engineering policy with respect to shore protection.

Dimitrakopoulos: What is the value of real estate in Sea Bright?

Morris: This is something which we will investigate in our study of shorefront erosion and land use.

Hanley: I don't like the term "unrestricted access" used in the State policies. It is unsound for any agency to say "unrestricted".

Lindemann: What about local administration of CAFRA?

Huguley: Could be administered by a special technical staff at the county level which would conduct independent project reviews following a cross-acceptance of the County General Development Plan and the State Coastal Zone Management Program and/or State Development Guide Plan. Could be a pre-application conference between the County staff and applicant with a municipal representative as a participant.

Bellantoni: Why has the State not encouraged the use of alternative energy sources more strongly? Wind, tidal, and geothermal energy deserve far more attention.

Hanley: I wonder whether a new school would be permitted in Sea Bright in light of the State's and County's concern over development on offshore barriers.

Spille: Remember that there are insurance and liability aspects associated with public access to private lands.

Spille: We know about the sins of the past (unwise development in unstable areas); let's not repeat these mistakes in the future.

Lindemann: How many of you would like to see the county administer the CAFRA program? (Nine hands raised by members of audience in response).

Spille: Greater local control is not desirable.

Workshop III: Hazlet Township Municipal Building, August 7, 1978, 8 PM.

David W. Morris, Jr. Monmouth County Planning Board

Donald Bookbinder, Chairman, Hazlet Township Environmental Commission
Tom Damm, Woodbridge News-Tribune
Evelyn Dillis, Hazlet Township Environmental Commission
Doranne Dimitrakopoulos, Middletown Township (Leonardo)
Nancy Gahn, Monmouth County Environmental Council
Dr. L.U. Kibler, Chairman, Middletown Township Environmental Commission
S. Travers Neidlinger, Trustee, Leonardo Taxpayers Association, Inc.
Raymond C. Weber, Holmdel
Robert Weigand, Business Administrator, Hazlet Township
Mary Jane Wiley, Hazlet Township Committeewoman
Clare Vetter, Vice-Chairperson, Hazlet Township Environmental Commission

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Kibler: The County should attempt to define the uses it would permit in subzones A and B. The 10-acre threshold for commercial regulation in subzone B is too high.

Bookbinder: Why are you recommending that we continue to exclude from review single family residences on single-family lots in subzone B? The present 25-unit limit for excluded projects is frequently subverted by 24-unit projects. We do need a clearer indication of the premitted uses for subzones A and B.

The local planning boards operate under a time deadline in accordance with the Municipal Land Use Law and have little time in which to rule on development proposals. The Office of Coastal Zone Management should make a decision first. The Municipal Land Use Law provides for a representative from the environmental commission on the municipal planning board. Some towns met this requirement by appointing a planning board member to the environmental commission. I don't think this is right.

Your Development Suitability Map does not show all types of sensitive areas and is very misleading.

Morris: There is a need to explain the underlying criteria and limitations of the map. It should be used in conjunction with the Unique Areas Map and an evaluation of local natural features.

Dimitrakopoulos: You are encouraging high-density growth in areas which are overcrowded.

Neidlinger: During the construction of Route 36 the State interrupted the natural flow of the streams on the Bayshore. The people are never consulted.

Morris: Route 36 was built before the development of a coastal zone management program. Local public hearings are held during each CAFRA project review.

Bookbinder: What is the advantage of a county takeover of the permit-granting process? We have been more successful in dealing with the State than the County.

Neidlinger: Agree.

Bookbinder: County and State should administer program jointly. The environmental planners should have a vote on the County Planning Board.

Vetter: The Environmental Council should be given more power.

Morris: (Explanation of difference between appointed County Planning Board and staff.)

Neidlinger & Dimitrakopoulos: Discussion of personal experience with rights to riparian land.

Dimitrakopoulos: A number of property owners in Sea Bright would love to sell their riparian rights.

Weber: The owners of riparian lands and tidal marshes can neither use their property nor sell it.

Neidlinger: I am extremely concerned over the use of the wetlands on the Earle Naval site.

Kibler: I am disturbed by the tendency of State and County planners to draw artificial (e.g., the 1000-foot portions of subzone A) boundaries for programs designed to protect the environment. There is no discussion of the interaction of subzones A and B. How will govern-

ment actions in subzone A affect land use in subzone B and vice-versa? Why recognize only a coastal zone--aren't inland resources equally important? We need more mapping of natural features.

On the municipal level, all too often no one talks to one another. In Middletown, we have an inter-agency committee composed of various committee chairman and other officials which meets to discuss development proposals and general township problems.

Dimitrakopoulos & Neidlinger: Discussion of Middletown wetlands (and possibility of establishing an estuarine sanctuary), Indian artifacts discovered in the beds of several Bayshore streams, and historical sites. Also, raised the problem of property rights to regulated lands.

Morris: We favor tax abatements and the concept of transfer of development rights as a means of preserving lands and compensating owners.

Neidlinger: I am opposed to the idea of the County Parks System taking homes from their owners on the Pews Creek site (which is under consideration as a potential County park). I am very angry at both the State and County and say that they are both unresponsive.

Workshop IV: Monmouth County Library, Eastern Branch. September 18, 1978, 7 PM.

Robert W. Huguley — Monmouth County Planning Board
David W. Morris, Jr.

Doranne Dimitrakopoulos, Middletown (Leonardo).
Loretta C. Hanley, Sea Bright Environmental Committee, Secretary
Joseph Luste, Neptune.
William H. McCormack, Middletown.
S. Travis Neidlinger, Middletown (Leonardo).
Kathleen Rippere, Middletown (Locust).
Donald Shanks, Monmouth Beach Environmental Commission.

Dimitrakopoulos: Middletown Township has an R-15 zone which permits playgrounds and includes public beaches. I would like to point out that New Jersey Beach Access Study Commission Report notes that Federal Government's recommendation that states with limited public beach

areas emphasize lateral rather than perpendicular access to the waterfront.

Neidlinger: In the future, I would hope that the County would deal with Leonardo rather than the Township of Middletown, as we have had our land confiscated too many times.

Rippere, Neidlinger: The state should buy back its riparian rights.

Neidlinger: Our local beaches are lawfully dedicated to the people of Leonardo. Many years ago, the State ordered the Township either to sell its riparian rights to the State or to return them to the people. Middletown chose to do the latter. Later, the Township took the lands back and sold them back to the State.

Dredging is responsible for a land loss of some 30 feet per year in the area of the Pews Creek marina. The erosion is occurring on the Port Monmouth of the Creek.

Municipal restrictions and restraints on public access to the shorefront are a necessity.

Luste: (In response to certain remarks by the audience). The individual does have the right to buy and sell property in wet areas.

Neidlinger: People have been dumping refuse illicitly ever since the municipal landfill was closed.

Shanks: The shore protection program of the Army Corps of Engineers has been a failure. Although I have no hard evidence, I strongly believe that the dredging of Sandy Hook Channel has accelerated the rate of erosion along the North Shore. (Mr. Huguley agreed, and responded with a lengthly explanation of the geological processes producing the northward and landward movement of sand).

Hanley: Sea Bright can't afford the many short-term measures proposed to date. We need a comprehensive plan for protecting the beaches.

Neidlinger: In Middletown we have experienced a problem with salt water intrusion.

Shanks: I tend to share the County Planning Board's feeling that beach nourishment is the answer.

Neidlinger: When the barrier of Sandy Hook terminated at the lighthouse (it has since grown a mile longer to the north), the mean high water mark was about two blocks higher in Leonardo. If the South Beach area of Sandy Hook were eventually severed, serious flooding would result.

Written Comment

S.T. Neidlinger, Chairman of the Board of Governors, The Preservationist, Inc. (no date)

The County's transition from an agricultural economy to a "chic" suburbia has destroyed historic artifacts and prehistoric deposits in wholesale quantities. Organization has enlisted services of a professional archaeologist to substantiate significance of artifacts and fossils discovered in the area of approximately twelve creeks tributary to the Shrewsbury and Navesink Rivers. Letter provides additional detail.

S.T. Neidlinger, Trustee, Leonardo Taxpayers Association, Inc. (no date)

Siltation in streams culverted during the construction of Route 36 creates upstream flooding south of the highway. Favors the acquisition of several lakes and wetland areas in the vicinity of the Earle Naval ammunition depot with estuarine sanctuary funds.

S.T. Neidlinger, above (no date)

Believes that Port-of Monmouth proposal for a 1000-boat marina, hotels or motels, and recreational facilities on a former garbage dump and Belford-Leonardo wetlands would cost taxpayers money, displace fisherman, destroy wetlands and shallow water feeding habitat by dredging Wares Creek. Believes that County will review--and should oppose--such a proposal. Objects to an amusement park atmosphere. Recommends a Woods Hole-type research facility.

S.T. Neidlinger, above (no date)

A good neighborhood/level description of the Leonardo area and attached comments concerning the planned Route 36 redevelopment. Association proposals are said to have beeframed with the participation of 200 people. Would like neighborhood to preserve its character as an "Historic Bungalow Resort Area" for low, middle, and upper income families. Oppose highway apartments, townhouses, businesses, or recreation areas which would increase traffic and crime potential in neighborhood. Urge protection of ten historic sites and two historic districts. The railroad right-of-way should be planned for future transportation to Gateway,

Asbury Park, and New York. The railroad bed should be used for inter-neighborhood traffic; police, first aid, and fire departments; and bicycle and horse riding. The highway should be landscaped with indigenous plant species such as bayberry.

S.T. Neidlinger, above. August 8, 1978

Residents have overcome initial resentment over the Navy's acquisition of 600 acres of wetland in 1973-1944 and applaud its safety and preservation record. Are "horrified" by traffic on Route 36, which services Gateway National Recreation Area. Complain of public use of privately held beaches and attendant litter, boat launching, and parking.

S.T. Neidlinger, The Preservationist, Inc. August 11, 1978.

Letter concerning the organization's success in creating a Township Landmark Commission and inclusion of several historic sites on the New Jersey and Federal Historic Registers.

Robert D. Spille, Attorney, Sea Bright, August 14, 1978.

Opposes platform ordinance (providing for access across step platforms on top of seawall) recently passed by the Borough of Sea Bright as a condition for receiving State aid for seawall repair. The ordinance will affect only platforms built in the future. Notes that only the ends of the seawall are publicly owned and that the State has posted a "No trespassing" sign on the north end.

S.T. Neidlinger, Middletown (Leonardo). August 18, 1978.

Letter with three attachments clipped from local periodical concerning the long history of property transfers in the Leonardo area.

Lynden U. Kibler, Chairman, Middletown Environmental Commission. August 30, 1978.

Supports the County's recommendations for future management with some suggestions. The coastal zone boundary should be redelineated to reflect soils and the natural environment more closely. Fifty- and 100-foot buffers would then be appropriate. There should be a gradual change in development permitted outside the critical areas to prevent abrupt changes in use adjacent to these areas.

NOTE: Verbatim transcripts of the four workshops are not available. The oral and written comments above have been paraphrased and summarized.

19-060

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