

MIDDLESEX COUNTY

STRATEGIC PLANNING AREA PLAN REPORT
SUPPLEMENTAL INFORMATION



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Introduction

This document represents additional information for the **“Middlesex County Endorsed Plan Submission to the New Jersey State Planning Commission Strategic Planning Area Plan Report for Group One: The Arthur Kill, Raritan River and Raritan Bay Area and the Metropark Area of Middlesex County, New Jersey, Final Report-May 30, 2003”** and **“Addendum Report- July 12, 2005”** (Report and Addendum). This supplemental information to the Group One Report addresses questions and issues raised in the November 17, 2005 review letter from Mr. Joseph I. Donald, P.P., Deputy Executive Director of the Office of Smart Growth, State of New Jersey Department of Community Affairs, a subsequent meeting to clarify specific parameters of the information requested and a December 13, 2005 letter from Mr. George M. Ververides, Director of the Middlesex County Planning Department. The December 13th letter serves as a letter of understanding for the agreed upon contents of this report to achieve a “Complete” Petition for Initial Endorsed Plan consideration from the Office of Smart Growth for the Metropark Strategic Planning Area and the Arthur Kill-Raritan Bay Strategic Planning Area. Both the November 17th letter and December 13th letter follow immediately in this report. The goal of this submission is to achieve a “Complete Petition” determination by the Office of Smart Growth and receive subsequent approval of Initial Endorsed Plan status by the State Planning Commission for the Arthur Kill-Raritan Bay Strategic Planning Area and the Metropark Strategic Planning Area.

As stated in the December 13th letter, the required information has been divided into six interest area Items. The Items were grouped in this response when interrelated. Therefore:

In **Section One**, Item 1 and Item 2 are addressed together as they directly involve related petition endorsements, letters and meeting minutes from the eight participating municipalities and Middlesex County entities;

Section Two satisfies Item 3, providing a listing of Middlesex County background documents that are included for the Office of Smart Growth to determine up-to-date adopted master planning efforts within the County;

Section Three clarifies Middlesex County’s intent in identifying potential Centers within the 2003 Report, relative to the Center Designation requirements expressed in the OSG Plan Endorsement Guidelines approved April 2004. This should resolve Item 4 concerns about detailed municipal Center Designation petitions not included at this stage of Initial Regional Plan Endorsement;

Section Four addresses Item 5, Planning Coordination Issues;

Section Five provides supplemental Natural Resource Inventory information pertinent to the Report’s Strategic Planning Areas.

Introduction Attachments

1. November 17, 2005 review letter from Joseph I. Donald,
Deputy Executive Director of the Office of Smart Growth
2. December 13, 2005 letter from George M. Ververides,
Director of County Planning

Section One

Municipal Endorsements

This section consists of copies of correspondence, resolutions, minutes, and letters from both municipal and Middlesex County entities presenting the status of resolutions of plan petition endorsement, municipal meeting minutes relevant to public discussion of the plan petition, and municipal plan endorsement letters from each participating municipality in the Arthur Kill-Raritan Bay Strategic Planning Area and the Metropark Strategic Planning Area. The table below shows that each participating municipality and Middlesex County has expressed a commitment to advance the Initial Endorsed Plan Petition in either a Resolution of Endorsement or Letter of Endorsement.

STATUS OF MUNICIPAL ENDORSEMENTS AND MEETING MINUTES:

<u>Municipality</u>	<u>Resolution</u>	<u>Meeting Minutes</u>	<u>Letters</u>
Carteret	12/02/05	pending	
Edison	12/20/05	pending	08/24/05
Metuchen	12/09/05	pending	
Old Bridge	09/06/05	received	
Perth Amboy			09/16/05
Sayreville	12/12/05	pending	
South Amboy	09/07/05	received	
Woodbridge	10/05/05	received	
Middlesex County	09/13/05	received	

Municipal Endorsement Attachments

1. Submission of Resolutions of Endorsement and/or letter of support from all municipalities in the SPA Group One Report.

Resolutions of Endorsement:

- a. Borough of Carteret
- b. Township of Edison
- c. Borough of Metuchen
- d. Township of Old Bridge
- e. Borough of Sayreville
- f. City of South Amboy
- g. Township of Woodbridge
- h. Middlesex County

Letters of Support:

1. Township of Edison
2. City of Perth Amboy

2. Copies of Meeting Minutes
 - a. Public Hearing on the Middlesex County Group One Plan Report and Report Addendum – July 12, 2005
 - b. Minutes of a Special Meeting of the Township of Old Bridge Planning Board Supporting the Plan Endorsement Process – September 6, 2005
 - c. Minutes of the South Amboy Council Meeting Supporting the SPA Group One Plan – September 7, 2005
 - d. Meeting of the Middlesex County Planning Board Authorizing Submission of the Plan Petition –September 13, 2005
 - e. Minutes of the Woodbridge Council Meeting Supporting the SPA Group One Plan – October 5, 2005
3. Letter from the Township of Woodbridge offering comments on the Group One Plan Report and Addendum – July 12, 2005

Section Two

Listing of Middlesex County Adopted Master Plan Elements and Related Documents

- a. Growth Management Plan – Phase I
Preliminary Infrastructure Needs Assessment – June 5, 1990
- b. Middlesex County Growth Management Strategy Phase II Report –
July 1992
- c. Middlesex County Growth Management Strategy Phase III Report –
December 1995
- d. Strategic Planning To Achieve Economic Revitalization &
Environmental Resource Preservation in Middlesex County, NJ:
Implementation of Sustainable Community Development Objectives
For the Arthur Kill-Raritan Estuary-Raritan Bay Strategic Planning Area
– September 11, 1996
- e. Middlesex County Transportation Plan – May 1999
- f. The Lower Raritan-Middlesex County Wastewater Management Plan –
September 7, 2000
- g. Comprehensive Farmland Preservation Plan for Middlesex County –
May 8, 2001
- h. Middlesex County Bicycle Pedestrian Plan – March 2002
- i. Open Space and Recreation Plan 2003
- j. Middlesex County Department of Planning, Publications List, 2004
- k. Middlesex County 2005-2010 Six Year Capital Budget Plan
- l. Middlesex County 2005 Capital & Capital Lease Purchase Budget
Public Hearing – February 15, 2005
- m. Middlesex County Annual Report on Transportation – July 2005

Section Three

Clarification of Potential Centers

Identification of potential future centers in the Group One Report

The County and participating municipal representatives prepared most aspects of the Group One Report before the State promulgated its Plan Endorsement Guidelines in April 2004. Those guidelines clarified the process for designating additional Centers and for changes to the Policy Planning Map. Since we have not completed all aspects of that process, the County is not asking the State to designate additional Centers at this time. Instead, the new “centers” our submission includes should be understood as areas we believe are potentially suitable for future center designation.

At present, the boundaries of these potential centers and Cores and Nodes serve to focus physical strategies for planned growth and consistent strategic planning, including Cross Acceptance and individual and joint community planning. (Middlesex County Cross Acceptance Reports 1989-2004, and document exhibits a. through d.) This can be done without official Center designation.

Focusing development in these areas also is consistent with SDRP Policies 1, 2, 4, 7, 8, 10 and 12.

Once the County has received Initial Plan Endorsement for the Group One areas, we may pursue Advanced State Endorsement, including designating additional centers, using the process the current Plan Endorsement Guidelines require.

Historical Background and State Planning Context

To provide historical reference showing consistent support of Centers within the Metropark Strategic Planning Area and the Arthur Kill-Raritan Bay Strategic Planning Area, specific definitions from the State Development and Redevelopment Plan (SDRP) and an applied term/SPA/SDRP place relationship analysis entitled “CORRELATION OF CENTERS IN THE GROUP ONE REPORT AND PRIOR SDRP DOCUMENTS”, are provided, below:

Definitions of prior State Development and Redevelopment Plans (1992, 2001):

Center means a compact form of development with a core or node (*focus of residential, commercial and service development*) and a Community Development Area that ranges in scale from an Urban Center, to a Regional Center, Town, Village, and Hamlet. (1992)

Designated Center means a Center that has been officially recognized as such by the State Planning Commission. (2001)

Identified Center means a place identified during Cross Acceptance as having the attributes of a potential Center. (2001)

Planned Center is a term of the SDRP, 1992, but not defined.

Proposed Center means a place that is surrounded by a Center Boundary and meets Center criteria, and is included in either a Negotiating Entity or Municipal Cross Acceptance Report. (2001)

The Group One Report contains advocacy and supportive proposals for one Urban Center, one Town Center, four Regional Centers and six Transit Villages.

CORRELATION OF CENTERS IN THE GROUP ONE REPORT AND PRIOR SDRP DOCUMENTS

BOLD- denotes Report Identification.

(ADD)- denotes Addendum Report July 12, 2005 reference.

(1992)- denotes 1992 New Jersey State Development and Redevelopment Plan, Communities of Place.

(2001)- denotes 2001 New Jersey State Development and Redevelopment Plan.

(NJTV)- denotes NJDOT/NJ TRANSIT Transit Village (see below).

Potential Centers of the Arthur Kill, Raritan Bay Strategic Planning Area

Carteret-Port Reading-Sewaren Regional Center

Regional Center Northern Core & Node

Carteret, Carteret Borough

Proposed Transit Village

Identified Existing Town Center (1992, 2001)

Regional Center Southern Node

Sewaren, Woodbridge Twp.

Identified Existing Town Center (2001)

Perth Amboy Urban Center

Proposed Transit Village (Add)

Perth Amboy, City of Perth Amboy

Identified Existing Regional Center (1992, 2001)

Raritan Center-Keasbey Regional Center

Regional Center Southern Core & Node

Raritan Center (Edison Twp. and Woodbridge Twp.)

Identified Existing Regional Center (1992, 2001)

South Edison, Edison Twp.

Identified Existing Town Center (1992, 2001)

Raritan Bayshore Regional Center

Regional Center Northern Core

South Amboy

Identified Existing Town Center (1992, 2001)

Existing Transit Village (NJTV)

Regional Center Southern Node

Garden State Parkway Exit 120

Identified Planned Regional Center (1992)

Morgan, Sayreville Borough

Identified Town Center (2001)

Regional Center Southern Core

Laurence Harbor, Old Bridge Twp.

Proposed Transit Village (Add)

Identified Town Center (2001)

Sayreville Town Center

Sayreville Town Center, Sayreville Borough

Identified Existing Town Center (1992, 2001)

Potential Centers of the Metropark Strategic Planning Area

Northern Route 1 Corridor Woodbridge Regional Center

Proposed Transit Village Hub Center (ADD)

Metropark-Woodbridge Center, Edison & Woodbridge Twps.
Identified Existing Regional Center (1992, 2001)

Regional Center Southern Core

Clara Barton-Amboy Avenue Town Center, Edison Twp.
Identified Town Center (2001)

Regional Center Northern Node

Colonia-Iselin, Woodbridge Twp.
Identified Town Center (1992, 2001)

Metuchen Town Center, designated 1997

Metuchen, Metuchen Borough
Identified Existing Town Center (1992)
Designated Town Center (2001)
Existing Transit Village (NJTV)

Transit Village Recommendations for Environs near Metropark Strategic Planning Area

Proposed Edison Transit Village, (ADD)

Edison RR Station (ADD)

Proposed Woodbridge Transit Village, (ADD)

Woodbridge RR Station (ADD)
Avenel-Woodbridge, Woodbridge Twp.
Identified Existing Town Center (1992, 2001)

At the request of NJDOT representatives in the Pre-Petition Meeting held November 23, 2004, existing and potential Transit Villages and a potential Transit Village Hub Center are referenced in the Report Addendum:

Transit Village/Transit Village Hub Center refers to the NJDOT/NJ TRANSIT Transit Villages Initiatives Program. A designated Transit Village is a community with a bus, train, light rail or ferry station that has developed a plan to achieve its goals. A municipality must demonstrate a commitment to smart growth planning and transit-oriented development, as well as a commitment to maintain the architectural history of the area, and create housing, cultural and commercial opportunities within walking distance of the facility.

The Transit Village program is designed to spur economic development, urban revitalization and private-sector investment around public transportation. Transit Village communities will be given priority consideration for funding from NJDOT's Local Aid for Centers program, the Transportation Enhancements program, and Bicycle and Pedestrian

Transit Village/Transit Village Hub Center (continued)

projects and projects of participating state agencies. The participating agencies include: the NJ Redevelopment Authority, NJ State Council on the Arts, and the NJ Housing and Mortgage Finance Agency, in addition to some of the SDRP State Agency Partners.

Actual refinement of center, core and node designation and determination of related boundaries should be prepared with the assistance of the Office of Smart Growth and the participation of related state agencies within the Plan Implementation Agreement Stage and eventual Advanced Endorsement Stage of each regional plan and the Middlesex County Master Plan. This approach ensures the full involvement and attention to interests of each planning entity at the local and regional planning level, and also integration of these plans with State planning and funding programs within the participating State Agency Partners: Commerce and Economic Growth Commission, NJ Department of Community Affairs, NJ Department of Transportation, NJ Department of Environmental Protection, NJ Department of Agriculture, Economic Development Authority, NJ Department of Corrections, and NJ Department of Education (Goal 8. SDRP, 2001).

Clarification of Potential Centers Described within the Group One Report Attachments

Attached Revised Maps

The following maps are attached to graphically clarify the preceding discussion and to remove errors in the original map preparation subsequently discovered. Specific maps and clarification or corrections are noted below.

Map 5 Revision

Supplants Map 5 “State Plan and SPA Group One” (Final Report).

Original map inaccurately displayed the boundaries of the existing Designated Metuchen Town Center.

Note: This map continues to utilize the May 7, 2003 adopted SDRP mapping. An updated map will be prepared for subsequent Cross Acceptance and Advanced Endorsed Plan approvals.

Map 6 & Figure 1 Revision

Supplants Map 6 “Metropark and Arthur Kill-Raritan Strategic Planning Areas Centers, Cores and Nodes” (Final Report) and Figure 1 “Transit Village Location Map” (Addendum, page 7).

Original map was difficult to “read” due to aerial photograph background.
Original map had conflicting “identified center” titles.
Original Figure was difficult to “read” due to aerial photograph background.
Original Figure did not include the full complement of Transit Village proposals depicted in the text at Page 4.

Section Four

Statement of Planning Coordination

Coordinating the Metropark Strategic Plan and the Arthur Kill-Raritan Strategic Area Plan future activities with State, regional and local planning efforts, and developing major public and private projects, are essential to advancing common goals and objectives of all parties. The Report emphasizes this throughout, and especially within the following:

Appendix III Major Infrastructure Projects Recommended to Support Growth in the Metropark and Arthur Kill-Raritan Strategic Planning Areas,
Appendix IV Planning and Implementation Agenda-Arthur Kill & Raritan Strategic Planning Area,
Appendix V Planning and Implementation Agenda- Metropark Strategic Planning Area and
Addendum Report-July 12, 2005.

These Appendices identify that the Group One Report is primarily a document coordinating the individual and combined planning efforts of the area's jurisdictional planning bodies at the federal, state, county and local level within the Metropark Strategic Planning Area (SPA) and Arthur Kill-Raritan Bay Strategic Planning Area (SPA). The Report Preface and Acknowledgements, pages 1 through 4, indicate the process of intergovernmental coordination, public participation and consensus that provided direction for the content of these Plans. The Middlesex County Smart Growth Task Force took a comprehensive and inclusive approach to planning concerns at all levels of government, as well as issues voiced by local citizens. The relevance of these Strategic Area Plans as an outgrowth of the Middlesex County Cross Acceptance Process shown within the Report illustrates the "plan, schedule, implement, monitor, and plan refinement" cycle advocated by the State Planning Commission.

1. County Master Plan

The last comprehensive County Master Plan was adopted in 1970 and included over 30 volumes. Since its adoption, the County has documented its planning efforts within specialized reports relating County policy and planning to anticipate, respond to and reflect County involvement in the major initiatives of State, regional and local planning bodies. The 13 accompanying reports and plans (see Section Two) submitted as part of this petition comprise the present county master planning efforts within the key areas of community planning, transportation and commerce planning, open space preservation and environmental planning.

1. County Master Plan (continued)

Each of these reports and plans expresses planning policies and proposed activities relevant to the Group One Strategic Planning Areas, and were consulted in the preparation of the Report and Report Addendum. Adopted Master Plan projects are correlated within the Program Implementation Agenda matrix of each SPA found in Appendices IV and V respectively. These Appendices also relate each project to specific SDRP Plan Policies.

2. Wastewater Management Plans

The Middlesex County Utilities Authority serves all of the sewered areas of the Arthur Kill-Raritan Bay SPA and most of the Metropark SPA. The Rahway Valley Sewage Authority serves a small portion of the Metropark Strategic Planning Area and northwest Woodbridge Township. The Report and Addendum Report are coordinated with the *“Lower Raritan-Middlesex County Wastewater Management Plan”* (Section Two, Item f.) relevant to the areas of the Metropark Strategic Planning Area and the Arthur Kill-Raritan Bay Strategic Planning Area.

Presently, there is excess capacity within both facilities, allowing future growth within the two Group One Strategic Planning Areas. (See Section Five for more information).

3. Delaware and Raritan Canal Commission Plan

Ernest P. Hahn, Executive Director of the Delaware and Raritan Canal Commission confirmed that Middlesex municipalities within the jurisdiction of the Delaware and Raritan Canal Commission Plan are west and south of the Group One Strategic Planning Areas. There are no impacts related to the Delaware and Raritan Canal Commission Plan within the Group One areas. The Metropark Strategic Planning Area and the Arthur Kill-Raritan Bay Strategic Planning Area are not within the review jurisdiction of the Delaware and Raritan Canal Commission.

As the other Strategic Area Plans are developed, those with portions of municipalities within the jurisdiction of the Delaware and Raritan Canal Plan will be analyzed for impacts.

4. Open Space/Recreation and Farmland Preservation Plans

The Middlesex County Open Space and Recreation Plan 2003, and Comprehensive Farmland Preservation Plan have both been adopted by the County Planning Board as elements of the Middlesex County Comprehensive Master Plan. As such, these documents are the primary references for coordinating issues of open space planning and farmland preservation for the Metropark Strategic Area Plan and the Arthur Kill-Raritan Bay Plan. (Refer to Report text and Appendices III, IV & V for related projects within the two SPA areas as well as each projects' direct "Relationship to State Plan Policies".)

Middlesex County has an Open Space Acquisition Committee, and an Open Space Trust Fund supported by a designated tax providing funding for land acquisition. Considerable new parkland has been developed within the Arthur Kill-Raritan Bay Strategic Planning Area. Adopted planning goals and objectives call for more involvement within the intervening Environs of Group One and critically environmentally sensitive areas being identified within both the Metropark SPA and Arthur Kill-Raritan Bay SPA. Recreational planning focuses on greenways and connective trails, and resource protection for waterfront sites for both active and passive recreation. The presently adopted Open Space and Recreation Plan calls for adding 5,000 acres by the year 2012 to County parklands and open space holdings, and continuing to acquire environmental conservation sites.

Farmland Preservation is not a priority within the Metropark SPA or the Arthur Kill-Raritan Bay SPA, because of the speculative development value of land in this near-metropolitan location. Only two small tracts within Sayreville and near the South Amboy southwest border are classified as farmland-assessed properties within the Arthur Kill-Raritan Bay SPA, and no farmland-assessed land exists in the Metropark SPA.

5. Coordinating Activities of Strategic Planning Area Plans with Boards of Education

Coordinating the planning of educational facilities under Middlesex County's jurisdiction was considered within the context of the Metropark and Arthur Kill Strategic Area Plans. At the County level, the Middlesex County Office of the Superintendent of Schools provides liaison and representation for facilities directly under County jurisdiction, and oversight of local school boards. Coordinating local school board facility planning with Smart Growth planning and implementation is carried out by the governing bodies of each municipality. The Report recognizes that coordinating community-oriented educational services and facilities and municipal pedestrian and alternate mode transportation improvements and public service programs can provide benefits for both the schools and communities they serve. Open space and greenways planning provide additional opportunities to encourage healthier neighborhoods and to promote positive school/community relationships.

5. Coordinating Activities of Strategic Planning Area Plans with Boards of Education (continued)

Limited funding is the major obstacle to implementing projects that can promote a healthier future citizenry through community-centric (New Urbanism, Smart Growth and Neo-traditional) planning patterns. The Advanced Endorsement Strategic Plans for the Metropark and Arthur Kill-Raritan Bay Planning Areas will propose mechanisms providing regional advocacy and continuity in planning, scheduling, implementing, and monitoring new projects, and directing funding sources from many entities to achieve SPA objectives.

Perth Amboy, the Proposed Urban Center of the Arthur Kill-Raritan Bay Strategic Planning Area, is making headway coordinating educational and community planning with its “community high school” building program that provides numerous services beyond traditional academics. Invigorated by a thoughtful Design Competition Program the new high school is best described by its designer, John Rowan Associates:

“The project explores the interface between the community and its high school, and proposes a hybrid institution which functions simultaneously as school and civic cultural center, blurring the boundary between the community and its institutions. The high school is herein defined not as a “building,” but as the sum total of three superimposed systems: the natural and constructed surface of the site (Mat), the interconnected volumes housing the programmatic requirements of the academies (Barscape), and the volumes housing the communal programs shared by the school and the greater community (Towers).”

Smart Growth aware Middlesex County municipalities of the Metropark and Arthur Kill-Raritan Bay Planning Areas have already attracted \$439,000.00 (8%) of the total \$5,232,000 FY 2006 NJDOT sponsored Safe Streets To Schools Program (formerly Pedestrian Safety Program) and comparable sums for Rails to Trails and Bicycle Trail projects (See Safe streets to Schools FY2006 breakdown below).

NJDOT Safe Streets To Schools FY 2006 Middlesex County Recipients:

Metropark SPA:

Edison-New Dover Road-\$39,000

Woodbridge-installing LED light systems, various streets-\$100,000

Arthur Kill, Raritan Bay, Raritan River SPA:

Perth Amboy-Perth Amboy Safe Streets to Schools-\$200,000

Sayreville-Whitehead Avenue-\$100,000

5. Coordinating Activities of Strategic Planning Area Plans with Boards of Education (continued)

These examples show that multi-level and multi-agency coordinated planning efforts are accomplishing complementary goals and objectives, enhancing the areas' quality of life. Plan Endorsement will advance these cooperative efforts.

6. Metropolitan Planning Organization

The North Jersey Transportation Authority is the federally authorized Metropolitan Plan Organization (MPO) for 6 million people in the 13-county northern New Jersey region. The NJTPA is composed of 15 "subregions" consisting of 13 counties: Bergen, Essex, Hudson, Hunterdon, Middlesex, Monmouth, Morris, Ocean, Passaic, Somerset, Sussex, Union and Warren; and two cities: Newark and Jersey City. Each participating subregion has governing board representation, allowing Middlesex County direct access to the MPO planning agenda.

The planning efforts of Middlesex County and the NJTPA are closely coordinated. As expressed in the organizing principles of the North Jersey Transportation Authority:

“Partnership” is a key principle of the transportation planning process in northern New Jersey. The 13 counties and two major cities represented on the NJTPA Board – known as “subregions” – carry out transportation planning work that helps NJTPA identify and address regional-level transportation needs.

The NJTPA provides federal funding to support the planning work of the subregions. The funds are matched by a local contribution. As vital partners in regional planning work, the subregions help bring a local perspective to all aspects of NJTPA's work to improve the northern New Jersey transportation network.

The NJDOT authorized Transportation Management Association is Keep Middlesex Moving, Inc. (KMM). Associated with the Middlesex County Improvement Authority, KMM staff provided valuable input for the development of these plans. Both SPAs host bus corridors, Park and Ride facilities and shuttles that serve commuters and form a beginning framework for the transit oriented aspect of the Smart Growth planning movement in the Group One area.

At various stages of the development of the Middlesex County 2004 Cross Acceptance Report and the Strategic Planning Areas Group One Report and Addendum Report, these agencies were consulted regarding coordinating the elements of the Metropark Strategic Area Plan and Arthur Kill-Raritan Bay Strategic Area Plan.

6. Metropolitan Planning Organization (continued)

The most impressive recent public development activities in Group One are transportation-related. Recently NJDOT has spent over \$500 million in road and bridge construction in Perth Amboy and South Amboy within the Garden State Parkway/Victory Circle area of Perth Amboy. These improvements will greatly enhance the movement of goods within Raritan Bay and provide an impetus for the prominence of these municipalities as centers of commerce for the Arthur Kill-Raritan Bay SPA.

7. Private Sector Activity in the Arthur Kill-Raritan Bay and Metropark SPAs

Regarding the level of development activity by the private sector, the following information and analysis developed by the Land Development Review Division of the Middlesex County Planning Department supplements and updates information found in the 2003 Group One Report.

For the past several years the Middlesex County Planning Board Land Development Review Committee has recorded data for all developments reviewed within each individual Strategic Planning Area (SPA). The following table shows year end totals of the past four years within the Arthur Kill-Raritan Bay SPA and Metropark SPA.

Summary of Activity within Middlesex County Arthur Kill-Raritan Bay Strategic Planning Area and Metropark Strategic Planning Area

Arthur Kill SPA	# Plans Reviewed	Acres of Development	New Dwelling Units	New Non-Residential	
				Square Footage	Parking Spaces
2002	105	1,393.74	873	2,647,626	4,364
2003	78	769.47	792	880,357	3,489
2004	95	1,268.93	1,211	4,698,184	4,521
2005	100	2,129.55	1,384	3,712,816	4,668
Metropark SPA					
2002	58	630.09	449	480,893	1,163
2003	44	121.49	312	471,963	1,577
2004	41	350.52	121	566,667	2,635
2005	39	165.80	212	416,014	1,145

The number of developments within the Arthur Kill-Raritan Bay SPA has increased in each of the past three years. Development was led by the residential sector, followed by the retail/services, industrial/warehousing, and then office space. Several proposed large warehouses in the past two years are responsible for the large quantity of new non-residential square footage. Total acres of development, dwelling units, and new parking spaces are at record highs.

7. Private Sector Activity in the Arthur Kill-Raritan Bay and Metropark SPAs (continued)

The City of Perth Amboy approved over 115 site plans and subdivisions for development, accounting for one-third of the development within the Arthur Kill-Raritan Bay SPA within the four year period. Within Perth Amboy, large residential projects, such as The Landings at Harborside (462 units), Federal Hill (249 units), and 119-223 Sheridan Street (89 units), accompanied many smaller developments consisting of single or two-family dwelling units and mixed use projects (first floor commercial with second floor residential units). Over 1.5 million square feet of warehousing were added to the City of Perth Amboy in the past four years, highlighted by the most recent Amboy Corporate Center.

The Metropark SPA, the smallest SPA in Middlesex County, has seen steady growth over the past three years, led by the commercial and office sector fueled by the Metropark train station on the Northeast Corridor. Residential development is a close third. There has been no industrial development in this mostly residential and business oriented SPA.

8. Potential Conflicts of the Petitioner's Vision

This petition is advanced by a governing regional public entity that is involved with the formulation of land use regulation guidelines and bound by State regulations and mandates regarding the State Development and Redevelopment Plan process. The Middlesex County Planning Department, primary facilitators of the SPA process, is also well-informed regarding the interplay of the requirements of agencies such as the Council on Affordable Housing, the Committee on Residential Site Standards and other programs of the NJDOT, NJDEP and NJDCA. With the strong involvement of the Middlesex County Smart Growth Task Force and municipal participants, oversight roles of the State Planning Commission State Agency Partners and ample opportunities for public input, there is little real potential for a conflict with adopted planning and regulatory efforts or the development plans of the private sector.

Private sector and public agency recognition of State Planning Commission Endorsed Plans as binding and dynamic, location focused "blueprints" for development should strongly mitigate potential conflicts. Endorsed Plan Reexamination should provide ample flexibility for the inclusion of evolving and new public priorities. The public advocacy and coordination principles of the consensus process presented in the Endorsed Plan Program are principally why a publicly guided and supported Endorsement Petition is a worthwhile planning action to reduce conflicts and spur cooperation from all sectors of the development community.

Section Five

Natural Resource Inventory (NRI)

Introduction

Section Five serves as Middlesex County Department of Planning's official response to the November 17, 2005 letter from the Office of Smart Growth as it relates to the Natural Resource Inventory (NRI) for the Group One Strategic Planning Area. This section supplements the baseline environmental information and associated findings as presented in Part Two "The Environs and Environmental Resources" (pages 9-23) of the 2005 Addendum Report.

What follows is an overview of the boundaries of the two Group One Strategic Planning Areas; a detailed analysis of the 13 new GIS maps for the Group One Report; and a discussion of the regional watershed studies that relate to our Group One Planning Area, as requested by the New Jersey DEP.

Planning Context

The Group One Plan is comprised of two discrete strategic planning areas, Metropark and Arthur Kill-Raritan Bay. The Metropark Strategic Planning Area (SPA) is generally bounded by the Middlesex County border with Union County to the north, Routes 9 and 1/9 to the east, Route 287 and the New Jersey Turnpike to the south, and the west boundary of Metuchen or Route 27 on the west. It includes all of Metuchen and a portion of Woodbridge Township. The Arthur Kill-Raritan Strategic Planning Area (SPA) is generally bounded by the Middlesex County/Union County border to the north, the Arthur Kill and the Raritan Bay to the east, the Garden State Parkway and Bordentown-Amboy Turnpike to the south and the New Jersey Turnpike, South River and South River Canal to the west. It includes all of Carteret, Perth Amboy and South Amboy, portions of Woodbridge and Old Bridge east of the Garden State Parkway and most of Sayreville. The Raritan River flows through the Arthur Kill-Raritan Bay Strategic Planning Area and into Raritan Bay.

The Metropark Strategic Planning Area (SPA) and the Arthur Kill-Raritan Strategic Planning Area (SPA) are both located within the Metropolitan Planning Area (PA1) as represented on the official State Plan Policy Map. The State Plan Policy Map integrates the critical spatial concepts of the State Plan—Planning Areas and Centers and Environs—and provides the framework for implementing the Goals and Statewide policies in the State Plan. Each Planning Area has specific intentions and policy objectives guiding application of the statewide policies. Ensuring that future development and redevelopment occur within the boundaries of the State's PA1 areas is a major theme of the State Plan and its underlying goals and policies. One of the mandates in the State Planning Act is to "encourage development, redevelopment and economic growth in locations that are well situated with respect to present or anticipated public services or facilities and to discourage development where it may impair or destroy natural resources or environmental qualities." (NJAC 52:18A-196)

Planning Context (continued)

The Group One Plan focuses its discussion on the redevelopment of an already developed landscape. The two strategic study areas within the Group One area are urban landscapes. The Group One Plan provides a framework for this redevelopment to occur in an environmentally responsible manner. Because urban lands are characterized by intensive use and the landscape of the Group One area has already been much altered by human activity, the likelihood of significant environmental impacts to pristine areas is minimized.

Conclusions from Middlesex County's Department of Planning NRI Maps (The new NRI maps are found at the end of this section):

- I. Emergent Habitat Layers (Landscape Project)*
 - State Endangered Emergent Habitat layers are found in the Edison, Woodbridge and Sayreville portions of the Arthur Kill SPA.
 - State Threatened Emergent Habitat layers are found in the Old Bridge, Sayreville, Woodbridge, and Carteret portions of the Arthur Kill SPA.
 - Priority Species Emergent Habitat layers are found in the Sayreville, Edison, Woodbridge, and South Amboy portions of the Arthur Kill SPA, as well as the Edison portion of the Metropark SPA.
 - Suitable Habitat Emergent Habitat layers are found in the Sayreville and Edison portions of the Arthur Kill SPA as well as the Woodbridge and Metuchen portions of the Metropark SPA.

- II. Forested Wetland Habitat Layers (Landscape Project)*
 - The Priority Species Habitat layer is found in the Metuchen portion of the Metropark SPA boundary as well as in the Sayreville and Old Bridge sections of the Arthur Kill SPA.
 - The Suitable Habitat layer is found in the Carteret, Woodbridge, Perth Amboy, Edison, Sayreville, South Amboy and Old Bridge portions of the Arthur Kill SPA. It is also found to be located in the Metuchen, Edison, and Woodbridge sections of the Metropark SPA.

- III. Forest Habitat Layers (Landscape Project)*
 - The Priority Species layer is found in the Sayreville, South Amboy, Old Bridge, Edison, and Woodbridge sections of the Arthur Kill SPA.
 - The Suitable Habitat layer is found in the Carteret and Woodbridge sections of the Arthur Kill SPA and the Metuchen portion of the Metropark SPA.

*The purpose of this layer is to provide users with peer reviewed, scientifically sound wildlife data that is easily accessible and can be integrated with planning, protection and land management programs at every level of government (state, county, municipal) as well as non-governmental conservation organizations and private land owners.

Conclusions from Middlesex County's Department of Planning NRI Maps (continued)

IV. Endangered Species Habitat (Cross Acceptance)

- The landscape data used in the creation of the LS345_CA layer are based on the latest version of the Landscape Project habitat models, which utilize polygons from the NJDEP 1995/97 Land Use/Land Cover (LU/LC) data layer. In this process, appropriate LU/LC polygons were placed into one of the five basic habitat types modeled in the Landscape Project-- Beach, Emergent, Forest, Wetland Forests, and Grasslands--and the landscape models were run to identify critical habitat areas. Each polygon in each habitat layer is given a rank of from 1 to 5, which reflects the critical nature of that habitat.
- Areas with ranks 3, 4, 5 are considered most critical since they represent habitat areas utilized by species on the State Threatened, State Endangered, and Federal Threatened and Endangered Species lists, respectively.
- The Endangered Species rank 3-5 habitats are found in the Woodbridge, Carteret, Edison, Sayreville, Perth Amboy, and Old Bridge sections of the Arthur Kill SPA.

V. Watersheds and Subwatersheds (DEP HUC 14 and HUC 11) / Critical Subwatersheds (Cross Acceptance)

- Watersheds (DEPHUC14) are delineated from 1:24,000-scale (7.5-minute) USGS quadrangles. The delineations have been developed for general purpose use by USGS District staff over the past 20 years. Arc and polygon attributes have been included in the coverage with basin names and ranks of divides, and 14-digit hydrologic unit codes.
- Watersheds by Name (DEPHUC11) are delineated from 1:24,000-scale (7.5-minute) USGS quadrangles. The delineations have been developed for general purpose use by USGS District staff over the past 20 years. Arc and polygon attributes have been included in the coverage with basin names and ranks of divides, and 14-digit hydrologic unit codes.
- The Arthur Kill SPA is composed of the Raritan River Lower (below Lawrence), Raritan/Sandy Hook Bay Tributaries, Raritan/Sandy Hook Bays, and Rahway River/Woodbridge Creek HUC 14 watersheds. The Metropark SPA is composed of the Rahway River/Woodbridge Creek, Raritan River Lower (below Lawrence), and the Raritan River Lower (Lawrence to Millstone) HUC 14 watersheds.
- The Arthur Kill SPA is composed of the following HUC 11 watersheds: 331, 327, 313, 336, 314, 310, 292, and 287. The Metropark SPA is composed of the following HUC 11 watersheds: 295, 289, 292, and 310.

Conclusions from Middlesex County's Department of Planning NRI Maps **(continued)**

- The first step in creating the Cross Acceptance layer was to code the HUC14 sub-watershed polygons with some additional attributes. The HUC14 layer was merged with the 1995/97 LU/LC layer so that the mean impervious surface percent of each HUC14 basin could be calculated. The LU/LC layer includes an estimate of the impervious surface percentage of each polygon mapped in that layer. Using this value, a mean impervious surface percentage could be calculated for each sub-watershed mapped in the HUC14 layer. Once the mean value was calculated, all HUC14 basins with a value of less than 10%, could be identified, and coded as such.
- The Critical Subwatersheds layer is found in the South Amboy, Sayreville, Edison, and Old Bridge sections of the Arthur Kill SPA.

VI. Wetlands (Cross Acceptance)

- The WETLANDS_CA layer has been extracted from the 1995/97 LU/LC layer. All polygons with a TYPE95 code of WETLANDS in that layer were extracted from a statewide LU/LC data set, and placed in a separate layer. This included both tidal and non-tidal wetlands, and natural and modified wetlands as mapped in the LU/LC project.
- The Wetlands layer can be found in the Carteret, Woodbridge, Perth Amboy, Edison, Sayreville, South Amboy, and Old Bridge sections of the Arthur Kill SPA as well as in the Edison, Metuchen and Woodbridge sections of the Metropark SPA.

VII. Beach Habitat Layer (Landscape Project)* /Shellfish Classification (2005) (NJDEP OGIS)

- The Beach Habitat layer occupies the shorelines of South Amboy, Sayreville, and Old Bridge portions of the Arthur Kill SPA.
- This data is a graphic representation of NJ coastal waters classified according to regulations of shellfish harvest. Waters are classified in one of five categories: Prohibited, Special Restricted, Seasonal (Nov - Apr), Seasonal (Jan – Apr.), and Approved. Classification of the waters is based on the National Shellfish Sanitation Program.
- The Prohibited Shellfish layer falls within the Arthur Kill SPA off the coast of Old Bridge. There are no Special Restricted areas for Shellfish within the Group One Study Area.

VIII. Groundwater Recharge Areas (Cross Acceptance)/ Aquifers

- For the Cross Acceptance process, the original ground water recharge data, calculated for each WMA, were first converted from an inches-per-year rating to a volume-based rating. The volume data were then grouped into three classes to simplify further analysis, based on the percent contribution to the total recharge amounts. Once grouped into the three classes, the individual volume-based data were merged into a single statewide layer. From this layer, only the polygons contributing the highest one-third of the recharge volume in each WMA were selected for further processing.

Conclusions from Middlesex County's Department of Planning NRI Maps **(continued)**

- The final step in creating this recharge layer was to remove areas within the ground water recharge polygons which were developed or built-up. This was accomplished by merging the selected recharge polygons described above, with the developed areas mapped as part of the 1995/97 Land Use/Land Cover Mapping project. Those portions of the recharge polygons that were also developed were eliminated from the final recharge layer. The final Ground Water Recharge (Cross Acceptance) layer, therefore, includes all polygons within the state that were identified as contributing the highest one-third of the recharge volume in the appropriate WMA, and which were not developed in the 1995/97 LU/LC layer.
- The Groundwater Recharge Areas are found within the Carteret, Woodbridge, Perth Amboy, South Amboy, Sayreville, Edison and Old Bridge sections of the Arthur Kill SPA. It is also found in the Woodbridge, Edison, and Metuchen sections of the Metropark SPA.
- This layer represents the average composite of aquifer yield and ground water recharge. The area "A" represents high yield and high ground water recharge, decreasing to area "E" which represents poor yield and poor ground water recharge.
- The southern portion of the Arthur Kill SPA in Sayreville and parts of Old Bridge and South Amboy show good yield and good recharge. The yield and recharge averages steadily worsen as you move north into Woodbridge, Perth Amboy, Edison, and Carteret.
- The Metropark SPA consists of B, C, D, and E drainage and yield averages with the bulk of the least favorable residing in Woodbridge.

IX. Elevation Contours

- This dataset is a graphical representation of New Jersey's statewide elevation contours with twenty foot intervals. It was created from the USGS DEM 100 meter lattice.
- There are no slope gradients greater than 15% in the Group One SPA's discernable by the degree of accuracy inherent to those data set parameters.

X. Parkland

- This is the latest compilation of the open space coverage prepared by the Middlesex County Planning Department.
- Municipal Parks are found in the Sayreville, Old Bridge, Perth Amboy, Carteret, Woodbridge, and Edison sections of the Arthur Kill SPA as well as in the Metuchen, Woodbridge, and Edison sections of the Metropark SPA.
- County Parks are found in the Old Bridge, South Amboy, Sayreville, Woodbridge, Carteret, and Edison section of the Arthur Kill SPA as well as in the Edison and Woodbridge sections of the Metropark SPA.
- State Parks are found in the Old Bridge section of the Arthur Kill SPA and the Edison section of the Metropark SPA.

Conclusions from Middlesex County's Department of Planning NRI Maps for the SPA Group One Planning Area (continued)

XI. CAFRA Urban Lands

- The data provides information for regulators, planners, and others interested in Land Use/Land Cover changes, and allows them to quantify those changes over time using GIS. The use of the updated 1995/97 Land Use/Land Cover and Information System layers will provide a means of monitoring the health of the citizens and ecosystems of New Jersey through the use of diverse applications.
- CAFRA Urban Lands occupy a small section in the southeastern portion of the Arthur Kill SPA in Old Bridge and Sayreville.

XII. Land Use (based on 2002 Aerials)

- The Land Use layer is an update of the NJDEP 1995 Land Use/Land Cover by the staff of the Middlesex County Planning Department using 2002 Aerial Photography.
- The Arthur Kill SPA is dominated by mostly industrial land use while the Metropark SPA is dominated by mainly low-density residential land use.

XIII. Zoning (2006)

- A continuously updated layer by the staff of the Middlesex County Planning department which displays generalized zoning.
- The Arthur Kill SPA is dominated by Residential 3, Industrial 1 and 2 designated zoning types while the Metropark SPA is dominated by Residential 3 zoning type.

Analysis was conducted on the following maps but were not included for they had no information relevant to the Arthur Kill SPA or Metropark SPA boundaries:

- Soils Map
- Geology Map
- Digital Elevation Hillshade
- Coastal Flooding (100 Year)
- Natural Heritage Priority Sites
- Bald Eagle Foraging Habitat
- Woodturtle Habitat
- Grassland Habitat
- Natural Heritage Program Priority Sites Cross Acceptance

Regional Watershed Studies

In addition to local environmental information, the New Jersey DEP, in the November 17, 2005 letter from the Office of Smart Growth, requested that the Middlesex County Department of Planning review relevant information from regional watershed management studies. What follows is a review of the Raritan River Basin Watershed Plan as it relates to Watershed Management Area 9 (WMA 9), the Metropolitan Watershed of New Jersey Plan for Watershed Management Area 7 (WMA 7), the 2001 Watershed Characterization Study undertaken by the New York/New Jersey Harbor Estuary Program, and the Initial Surface Water Quality Characterization and Assessment Report (Based on NJDEP Data) for Watershed Management Area 12 (WMA 12). The Lower Raritan-Middlesex County Wastewater Management Plan and New Jersey's Water Supply Management Act are also summarized in this section.

Raritan River Basin Watershed Plan

“Landscape of the Raritan River Basin Final Report, August 2002, New Jersey Water Supply Authority” as it relates to the Group One Plan’s Application for Initial Endorsement

A portion of the Group One Study Area is located within the boundaries of the Lower Raritan Water Management Area (WMA), defined by the New Jersey DEP as WMA 9. The Lower Raritan Watershed, one of three watersheds that comprise the Raritan River Basin Watershed Plan, contains the most urban land area, much of which was developed prior to 1986. The highest concentration of urban land use types is found predominately within the Lower Raritan WMA. A band of dense urban land stretches from Union County through northern Middlesex County and into central Somerset County. In Middlesex County, Woodbridge, Edison, Piscataway and Old Bridge Townships are mostly developed communities with significant population. Commercial development is inter-dispersed within the high and medium density residential areas throughout the Lower Raritan WMA. Raritan Center is a large industrial complex adjacent to the Raritan River in Edison Township. Other industrial land uses can also be found along the highway corridors and rail hubs.

The Lower Raritan WMA has the highest percentage of impervious cover, with sub-watershed values higher than 25% spread throughout the heavily developed parts of Union and northern Middlesex counties. The entire Raritan Basin is 11% impervious cover with the highest values concentrated in SDRP Planning Areas 1 and 2 (Metropolitan and Suburban).

The developed watersheds within the Lower Raritan WMA are primarily serviced by wastewater facilities that discharge to surface water. Planning Area (PA) 1 is almost entirely served by public sewer systems that discharge to surface water. Of the new urban development that occurred between 1986 and 1995 in the Raritan River Basin, 59 percent occurred within a mile of the

“Landscape of the Raritan River Basin Final Report, August 2002, New Jersey Water Supply Authority” as it relates to the Group One Plan’s Application for Initial Endorsement (continued)

state/federal highway network; 25 percent of the new construction occurred between one and two miles of the network; and only 16 percent beyond two miles. As of 1995, PA1 (Metropolitan) was 74 percent urban land, nine percent forest and 12 percent wetlands. Most of the soils classified as not highly erodible are located in the Coastal Plain portion of the Lower Raritan WMA, such as along the South River and the mainstem of the Raritan River.

Invasive vegetative species are a problem throughout the Basin. These species are crowding out native species of the Basin’s watersheds. According to a water-based recreation study conducted by TRC Omni Environmental Corporation, invasive plant species are particularly problematic near river access points and along rivers, ponds and other areas disturbed by human activity. Waterfowl (i.e., geese) are also a cause of water quality problems throughout the Basin. TRC Omni’s recreation study also makes mention of waterfowl problems at Kennedy Park in Sayreville.

The New Jersey DEP Landscape Project provides a basis for planning to protect critical habitats for threatened and endangered species. SDRP Planning Areas provide further guidance. The Landscape of the Raritan River Basin Final Technical Report undertook an analysis of critical habitats versus SDRP Planning Areas. The analysis showed that less critical habitat is found in the State Planning Areas where the development intensity is anticipated to be higher; conversely, more critical habitat is found in the State Planning areas where development intensity is anticipated to be lower. The regional study shows that across the Raritan Basin, PA1, PA2 and PA3 have relatively low percentages of critical habitat, ranging from eight percent of PA1 being comprised of critical habitat to 32 percent and 28 percent of PA2 and PA3, respectively, being comprised of critical habitat. The report concludes that “critical habitats within PA1, PA2 and PA3 may need special consideration when development occurs in those areas, while critical habitats in PA4 and PA5 should remain protected.”

According to the “Surface Water and Riparian Areas” Technical Report, the places where surface waters first begin flowing are often referred to as headwaters, and those streams are first order streams. Headwater streams are important, as they comprise the majority of stream miles in a watershed and are environmentally sensitive to disturbance due to their small size and flows. Forty-one percent of the first order streams are within PA1, 2 and 3, compared to 43 percent of second order or higher streams. First order streams within PA 1, 2 and 3 may need special consideration when development occurs in those areas, whereas first order streams in PA 4 and 5 should remain protected.

“Landscape of the Raritan River Basin Final Report, August 2002, New Jersey Water Supply Authority” as it relates to the Group One Plan’s Application for Initial Endorsement (continued)

The Group One Plan is consistent with these recommendations. Any redevelopment that would occur pursuant to the Group One Plan would be consistent with all local, state, and federal environmental rules and regulations, including environmental impact statements and assessments to ensure that streams are protected and environmentally sensitive areas are preserved to the greatest extent possible.

The data and associated technical analyses presented in the “Landscape of the Raritan Basin” the “Setting of the Raritan River Basin” and the “Surface Water and Riparian Areas in the Raritan River Basin” Technical Reports of the Raritan Basin Watershed Plan are henceforth adopted by reference and can be found online at www.njwsa.org/wpu/sri.htm.

Metropolitan Watershed of New Jersey Study

Whereas the Lower Raritan portion of the Raritan Basin Watershed Plan focused on a detailed analysis of Watershed Management Area 9, this watershed characterization study examines Watershed Management Area 7, which includes a portion of Woodbridge in the Metropark Strategic Planning Area (WMA 7) and the Carteret and Perth Amboy portion of the Arthur Kill-Raritan Bay Strategic Planning Area. The County of Union in association with Essex, Middlesex, and Hudson Counties oversaw the development of this study, which like the Raritan Bay work, is comprised of several technical reports, of which Hatch Mott Mac Donald and Najarian Associates served as consultants.

The two technical reports that were reviewed are “Setting of the Metropolitan Watershed of New Jersey: A Technical Report for the Characterization and Assessment of Watershed Management Area 7, Last Revised January 2003” and “Surface Water Quality, Pollutant Loadings and Critical Resources Assessment: A Technical Report for the Characterization and Assessment of Watershed Management Area 7, Last Revised May 2003.”

Both reports were obtained from Mr. James T. Lynch, Environmental Specialist/WMA 7, Division of Engineering for the County of Union. The reports present data and maps “showcasing” the array of environmental systems that comprise the watershed ecosystem. The Characterization and Assessment Technical Report includes a Critical Natural Resources Assessment. This assessment serves as an NRI for WMA 7. There are no large-scale areas of critical environmental habitat identified in the portion of the Group One Plan that overlaps with the WMA 7 study area. This is a developed urban region with little pristine habitat left. *The data and findings in this report are adopted by reference and cited in the Bibliography.*

New York-New Jersey Harbor Estuary Program Habitat Workgroup 2001 Status Report: A Regional Model for Estuary and Multiple Watershed Management

As noted in the Office of Smart Growth's letter of November 17, 2005 a portion of the Group One Plan's Study Area is located along the Arthur Kill, which is outside of the Lower Raritan Water Management Plan's study area boundaries. The Arthur Kill is a tidal strait connecting the Kill van Kull and Newark Bay to the north with Raritan Bay and Raritan River to the south. The characterization of the Arthur Kill watershed region, including the tributaries and wetlands feeding into the Arthur Kill from Union and Middlesex Counties, was undertaken by the Natural Resources Group of the New York City Parks Department and the Habitat Workgroup of the New York/New Jersey Harbor Estuary Program and published in the 2001 Status Report discussed below.

Baseline natural features were mapped in this 2001 Report for the portion of the Group One Study Area that is not part of the Lower Raritan Study. (*This map, which appears on page 73 of the report, is incorporated into this NRI by reference and is available online at New Jersey Environmental Digital Library, <http://njedl.rutgers.edu/njdlib/>. The reference number for the report is NJER 01-025.*)

The predominant natural feature on this map is wetlands. There is a small beach area at the southernmost part of Perth Amboy. No significant habitats are noted. No habitat loss is noted. This information complements the mapping that is included as part of this "Supplemental Information for the Group One Report" by the Middlesex County Department of Planning, using New Jersey Department of Environmental Protection information and GIS data.

Initial Surface Water Quality Watershed Characterization and Assessment Report for the Monmouth County Watershed Management Area (WMA 12), July 16, 1999

The Initial Surface Water Quality Watershed Characterization and Assessment Report for WMA 12 includes the South Amboy and Old Bridge portions of the Group One Arthur-Kill Raritan Bay Strategic Planning Area. This report represents an initial step in the watershed management planning process that summarizes existing information related to surface water quality in WMA 12 that was readily available to the NJDEP. This report serves two main purposes: 1) it is a preliminary step towards developing a comprehensive watershed characterization and assessment report for WMA 12; and 2) it compiles preliminary information to help define a set of surface water quality issues including the development of Total Maximum Daily Loads (TMDLs) for the impaired waters within WMA 12. The portion of the Group One Study Area that falls within the boundaries of WMA 12 are not analyzed in detail in this document, which is a preliminary draft. The data and information comprised in this initial study by the NJDEP has not been updated since July, 1999. *The baseline information is adopted here by reference.* The contents of the entire report can be found on line at <http://www.state.nj.us/dep/wmm/sgwqt/wat/area12-toc.htm#1.0>.

The Lower Raritan-Middlesex County Wastewater Management Plan, Amendment 2000-01 To The Lower Raritan-Middlesex County Water Quality Management Plan, September 7, 2000

The Lower Raritan/Middlesex County Wastewater Management Plan (LR/MC WMP) is an element of the Lower Raritan/Middlesex County Water Quality Management Plan (WQMP). The WQMP is required by the New Jersey Water Quality Management Planning Act (NJSA 58:11A-1 et. seq.) and must conform to the New Jersey Water Quality Management Planning and Implementation Process regulations (N.J.A.C. 7:15).

The existing Lower Raritan/Middlesex County Wastewater Management Plan planning area boundary encompasses all of Middlesex County and some portions of Somerset and Union Counties. The WMP planning area boundary was established using the existing WQMP boundary, less any areas that have been incorporated into the WMP planning areas of adjacent planning agencies through the formal WMP amendment or revision process.

Sanitary sewage generated within the boundaries of the Arthur Kill-Raritan Bay Strategic Planning Area and the majority of the Metropark Strategic Planning Area is treated at the Middlesex County Utilities Authority Sewage Treatment Plant (MCUA) located in Sayreville. This regional facility has a design capacity of 147 million-gallons per day (MGD) and is presently treating approximately 110 million-gallons of wastewater per day. A small portion of the Metropark Strategic Planning Area around Woodbridge Township is treated at the Rahway Valley Sewerage Authority (RVSA). This regional facility can accommodate a maximum peak flow of approximately 63 MGD and presently treats approximately 30 MGD. The RVSA is upgrading and expanding the treatment facilities to handle a peak flow of 105 MGD.

Water Supply Management

The Water Supply Management Act (NJSA 58:1A-1 et seq.) requires that the NJDEP develop a statewide water supply plan to ensure adequate supplies of water at a reasonable cost for all regions of New Jersey. The act requires attention to both the provision of water and also to the protection of water supplies. NJDEP's New Jersey Statewide Water Supply Plan "Water for the 21st Century: The Vital Resource" places strong emphasis on protection of existing water supplies, as the loss of these supplies could easily outweigh the potential for new supplies. As stated in the Raritan Basin Watershed Plan's Landscape Final Technical Report, the Raritan Basin has significant surface water supply capacity for future needs in those areas served by public water supply systems. The Group One Plan's two Strategic Planning Areas are serviced by public water supply systems.

Bibliography for Section 5 Group One Plan's Natural Resource Inventory

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Group One Plan's Natural Resource Inventory (continued)

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New Jersey Department of Environmental Protection's Landscape Project. Web Link: <http://www.state.nj.us/dep/fgw/ensp/landscape/>

New Jersey Department of Environmental Protection's Office of Geographic Information Systems (OGIS). Web Link: [http://www/state.nj.us/ogis](http://www.state.nj.us/ogis)

Section Five

Natural Resource Inventory

Attachments

LIST OF NRI MAPS

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3. Forest Habitat Layers
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