

Appendix A Bibliographic Data Summary

A.1 Introduction

In a project as complex as the 208 Program it is extremely difficult to produce a description of all of the efforts which have gone into the acquisition and analysis of the data gathered during the course of the study. This report will outline the major study tasks and the type of data acquired for each. It will also outline those areas where major data collection was performed and a list of all documents produced with cross references to the type of information available in each. Interim 208 Study reports will receive extensive distribution to government, educational and research organizations. It would be almost impossible to publish and make available for general distribution all of the original, historical and newly obtained data which was used in preparing final reports. The latter documents are on file at the Nassau-Suffolk Regional Planning Board and are available to those interested in more detailed information on a particular phase of the project.

In some cases, such as groundwater quality, treatment plant operation and bacteriological quality of surface waters, a substantial amount of historical data existed. Information on nutrient levels in certain bays, organics and viruses in surface and groundwater and non-point sources was lacking in many cases. Even where historical data were available, extensive analyses of these data were required to determine the accuracy due to changing analytical techniques and long-term natural fluctuations in parameters such as runoff, nutrients and flushing characteristics.

It is obvious that in such a complex interdisciplinary study a great deal of information is required to adequately characterize the system under investigation. As in any ecosystem, each functional part is inter-related. In few places is this shown as clearly as on Long Island. Water is not only a major connecting link, but the limiting factor in development and the types of activities which can take place on the Island. Any alteration in the hydrologic regime will have direct or indirect effects on other parts of the system.

The investigations had as their major emphasis the collection and analysis of data required to determine the quality and quantity of surface and groundwaters. Groundwater studies required the use of analog and digital

models to predict the effects of pumping rates and patterns and the effects of groundwater contamination by pollutant sources such as landfills. In order to be reliable, these models required the input of large amounts of current information on groundwater elevations, subsurface geology and present and predicted pumpage patterns. Characterization of groundwater quality required design of sampling programs to study the concentration and distribution of viruses, trace metals, organic compounds, pesticides, fertilizers and other chemical constituents related to water quality. In many areas, new test wells were drilled to obtain this information.

Since the surface waters of Long Island are intimately connected with changes in groundwater, field programs were designed to obtain data on the hydrography, chemistry, microbiology and point and non-point sources of pollution in the bays and surrounding marine surface waters. A major data collection effort was required to inventory and characterize all possible point sources in the Nassau-Suffolk area. These included municipal and private wastewater treatment plants, landfills, scavenger plants, industrial sources and incinerators. Data were also compiled on present and projected wastewater flows in order to assess possible structural alternatives in the wastewater management program.

It was initially agreed that to whatever extent possible, the operating and regulating agencies of each county would carry out the field sampling and laboratory analyses. The rationale for this is quite clear:

- a. These agencies work with this information on a day-to-day basis and thus exhibit a level of expertise relative to local conditions which an outside consultant could not be expected to have;
- b. The operating agencies were already equipped in many cases to undertake various aspects of the field programs; and,
- c. Funds provided by the grant would allow the agencies to develop a greater degree of efficiency through purchase of new equipment. This equipment and the experience gained would provide a basis for continued updating of the Program when the initial planning phase was completed.

A.2 Data Collection Program

For each phase of the Program, collection and analyses of existing data were required before field surveys and sampling programs could be formulated. In some cases this meant an extremely long period of searching the files of government, educational and research agencies. In others, voluminous data held by organizations had to be verified as to their relevancy to the Program. Table A-1 lists the agency involved, main topic of investigation and the present repository of the original data. The location of the original data is listed rather than reports comprising reduced data since those interested in pursuing further research on a particular subject generally desire the former type of data over reports containing final analyses of basic research reports.

Table A-2 summarizes the type of data available for each geographical area. The explanation of the table gives examples of data types included under each topic.

Data pertaining to the mainland areas, such as general hydrogeology or organic chemicals in test well samples, are listed as Nassau or Suffolk County "General." No effort has been made to indicate the amount of data for a particular parameter available for a specific location. For example, although hydrogeological data is shown for almost all bays, the only data available in many areas are estimates of subsurface underflow to the bay which are based on indirect evidence from other studies. Conversely there is a great deal of historical and newly acquired data available on the groundwater and subsurface geology of the mainland of the Island.

Table A-3 is a compilation of the types of data collected by each agency or consultant (see Table A-2 for explanation of heading). Again, there has been no attempt to indicate the amount of data held by a particular agency since the data collection effort involved parameters which were of interest to or routinely collected by several agencies. For example, although the Suffolk County Water Authority is especially interested in groundwater quality, it also routinely collects precipitation data. Because of this, a certain degree of interpretation is required in using these tables. For example, suppose we were interested in coliform data for Hempstead Harbor; Table A-2 indicates that such data is available while Table A-3 lists five agencies possessing microbiological data. Since Hempstead Harbor is in Nassau County, the primary contact would be the Nassau County Health Department followed by the general consultants, such as Tetra Tech, Inc.

Table A-4 lists all reports and publications prepared or assembled to date according to subject. Individual reports are listed serially in Section A.3, the Bibliographic Summary. Each report, as received, was assigned an acces-

sion number, the data types entered in Table A-4 and the reference added to the end of the Bibliography. Using this system, a reader interested in all reports dealing with a particular topic, such as non-point source pollution, merely has to write down the accession numbers of all reports listed under "Pollutant Sources." One may at the same time make a "first-cut" by eliminating all those except the reports indicated as having "Pollutant Sources" as their major emphasis.

Since planning is a continuous process, it is expected that new information will be generated. Table A-4 and Section A.3 are arranged to allow for additional listings.

Explanation of Tables 2, 3 and 4

Following is a list of major data types included in Tables A-2, A-3 and A-4 with examples of sub-categories within each major heading.

- Reference number (Accession number of each reference)
- Type (Primary [P] or Secondary [S] reference)
- Administrative (proposals, request for proposal, project control plans, contracts, etc.)
- Biology (wildlife, shellfish, productivity, etc.)
- Chemistry (COD, trace metals, inorganics, organics)
- Data Acquisitions (historical data, field sampling, methodology)
- Demography (population, land use, etc.)
- Ecology (natural resources, environmental impacts, etc.)
- Economics (cost/benefit, etc.)
- Geology (surface and subsurface, sediments)
- Hydrogeology (groundwater quality and quantity)
- Legal (present and proposed regulations)
- Meteorology (air quality, wind, precipitation)
- Microbiology (bacteria, viruses, algal species, BOD)
- Modeling (analog and numerical)
- Nutrient Chemistry (nitrogen and phosphorus)
- Physical Oceanography (temperature, salinity, tides, flushing, currents, etc.)
- Toxicology (pesticides, herbicides, organics, etc.)
- Residuals (sludge, solid, hazardous, etc.)
- Point Sources (treatment plants, industrial discharges, duck farms, etc.)
- Non-Point Sources (stormwater runoff, septic tanks)
- Trace organics (in groundwater, rainfall)

Table A-1
LIST OF PARTICIPATING AGENCIES/CONSULTANTS
AND MAJOR AREAS OF STUDY

Agency/Consultant	Main Area of Interest	Agency/Consultant	Main Area of Interest
Nassau-Suffolk Regional Planning Board (NSRPB) H. Lee Dennison Executive Office Building Veterans Memorial Highway Hauppauge, New York 11787 (Dr. Lee E. Koppelman, Executive Director)	Administration Demography Land Use Planning Legal Aspects	Suffolk County Water Authority (SCWA) Water Quality Laboratory Sunrise Highway Oakdale, New York 11769 (August Guerrera)	Groundwater Quality Laboratory Analyses
United States Geological Survey (USGS) Water Resources Division 5 Aerial Way Syosset, New York 11791 (Grant Kimmel)	Analog Modeling Geology Hydrogeology	Nassau County Department of Health (NCDH) Bureau of Water Pollution Control 240 Old Country Road Mineola, New York 11501 (Theodore Burger)	Groundwater Sampling Marina/Boating Effects Point and Non-Point Source Sampling Surface Water Sampling
Suffolk County Soil and Water Conservation District (SCSWCD) U. S. Department of Agriculture (USDA) Soil Conservation Service 127 East Main Street Riverhead, New York 11901 (Anthony Esser)	Agricultural Runoff Animal Wastes Erosion	Nassau County Planning Department (NCPD) Division of Environment and Conservation One Old Country Road Carle Place, New York 11514 (George Andrek)	Intra-Agency Coordination Land Use Planning
New York State Department of Environmental Conservation (NYSDEC) Region I, Building 40 State University of New York Stony Brook, New York 11794 (Philip Barbato)	Administration Advisory Review Lab Analyses	Nassau County Department of Public Works (NCDPW) Division of Sanitation and Water Supply Nassau County Executive Building One West Street Mineola, New York 11501 (James Oliva)	Point Sources Structural Alternatives
Suffolk County Department of Environmental Control (SCDEC) 65 Jetson Lane Hauppauge, New York 11787 (Vito Minei)	Laboratory Analyses Meteorology Non-Point Sources Sampling Surface and Groundwater Sampling Point Sources Structural Alternatives	Town of Islip Department of Environmental Control (IDEC) 577 Main Street Islip, New York 11750 (Barry Andres)	Non-Point Source Sampling Surface Water Sampling Virus Sampling
Suffolk County Department of Health Services Bureau of Environmental Health (SCDHS) H. Lee Dennison Executive Office Building Veterans Memorial Highway Hauppauge, New York 11787 (Dr. Aldo Andreoli)	Groundwater Quality Trace Organics Sampling Trace Metal Sampling Viruses	Cornell University Division of Agricultural Engineering (CES) Ithaca, New York (Dr. Keith Porter)	Fertilizers Hydrogeology Nitrogen Modeling Pesticides
		Princeton University Department of Civil Engineering Princeton, New Jersey 08540 (Dr. George Pinder) (Dr. Robert Cleary)	Groundwater Modeling Hydrogeology Landfill Leachates

Table A-1 (cont'd.)

Agency/Consultant	Main Area of Interest	Agency/Consultant	Main Area of Interest
State University of New York Stony Brook, New York (SUNY) (Dr. Edward Beltrami) (Dr. T. Owen Carroll)	Project Control Plan Critical Pathways Program Schedule	Tetra Tech, Inc. (TT) 496 Smithtown By-Pass Smithtown, New York 11787 (Gary Bigham)	Analyses of Structural Alternatives Surface Water Modeling Water Quality Assessments
Brookhaven National Laboratory (BNL) Division of Applied Sciences Upton, New York 11972 (Dr. James Vaughn)	Viruses	R. F. Weston (RFW) 1044 Northern Boulevard Roslyn, New York 11576 (John DeFilippi)	Cost of Structural Alternatives Point and Non-Point Sampling Program Structural Alternatives Wastewater Management Options
Energy Resources Company, Inc. (ERCO) 185 Alewife Brook Parkway Cambridge, Massachusetts 02138 (Ronald Beck)	Cost/Benefit Analyses Environmental Impacts	Woodward-Clyde Consultants (W/C) 2909 West 7th Avenue Denver, Colorado 80204 (Daniel Rabinowitz)	Hydrogeology Well Drilling Program
Geraghty and Miller, Inc. (G&M) Consulting Hydrogeologists 44 Sintsink Drive East Port Washington, New York 11050 (David Miller)	Groundwater Quality and Quantity Hydrogeology		

Table A-2

DATA AVAILABILITY vs. GEOGRAPHICAL AREA

Data Type	Western Long Island Sound	Nearshore Atlantic	Manhasset Bay	Hempstead Harbor	Oyster Bay	Huntington Bay	Port Jefferson	Peconic-Flanders System	Moriches Shinnecock System	Mecox Bay	Great South Bay	South Shore Bays (Nassau)	Nassau County (General)	Suffolk County (General)
Alternative Analysis			✓	✓	✓	✓	✓	✓			✓	✓	✓	✓
Administration													✓	✓
Biology	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓		
Chemistry	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Data Acquisition	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Demography													✓	✓
Ecology			✓	✓	✓	✓	✓	✓			✓	✓		
Economics													✓	✓
Geology			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Hydrogeology			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Legal													✓	✓
Meteorology		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Microbiology	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Modeling			✓	✓	✓	✓	✓	✓			✓	✓		
Nutrient Chemistry	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Physical Oceanography	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Toxicology													✓	✓
Residuals													✓	✓
Point Sources	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Non-Point Sources			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Trace Organics													✓	✓
Non-Modeled Areas	✓	✓							✓	✓				
Modeled Areas			✓	✓	✓	✓	✓	✓		✓	✓	✓	•	•

•— Indicates groundwater models
 ✓— Indicates data available

Table A-3
DATA AVAILABILITY vs. AGENCY AND CONSULTANT

Data Type	NSRPB	USGS	SCSWCD	NYDEC	SCDEC	SCDHS	SCWA	NCDH	NCPD	NCDPW	IDEC	CES	Princeton University	SUNY	BNL	ERCO	G&M	TT	RFW	W/C
Alternative Analysis	✓									✓								✓	✓	
Administration				✓					✓	✓				✓						
Biology			✓	✓	✓			✓								✓		✓		
Chemistry			✓	✓	✓	✓	✓	✓				✓	✓				✓	✓		
Data Acquisition	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓		✓	✓	✓	✓	✓	✓
Demography	✓	✓							✓											
Ecology																✓				
Economics	✓				✓					✓						✓			✓	
Geology		✓	✓				✓					✓	✓				✓			✓
Hydrogeology		✓					✓					✓	✓				✓		✓	✓
Legal	✓			✓					✓			✓								
Meteorology					✓		✓					✓	✓		✓					
Microbiology					✓	✓		✓			✓				✓			✓		
Modeling												✓	✓	✓				✓		
Nutrient Chemistry					✓			✓				✓						✓		
Physical Oceanography					✓													✓		
Toxicology												✓								
Residuals					✓	✓														✓
Point Sources				✓	✓			✓		✓			✓				✓	✓	✓	
Non-Point Sources			✓		✓	✓		✓		✓		✓					✓	✓	✓	
Trace Organics						✓	✓	✓								✓				

✓ - Indicates data available

Table A-4

CROSS-REFERENCE OF DATA TYPES CONTAINED IN INDIVIDUAL REPORTS COMPILED IN NSRPB 208 STUDY

Ref. No.	Type	Alternative Analysis	Administration	Biology	Chemistry	Data Acquisition	Demography	Ecology	Economics	Geology	Hydrogeology	Legal	Meteorology	Microbiology	Modeling	Nutrient Chemistry	Physical Oceanography	Pollutant Sources	Toxicology	Residuals
1	P		(x)																	
2	P		x																	
3	S			x											(x)					
4	S			x										(x)						
5	S			x										(x)						
6	S			x										(x)						
7	S				x						(x)									(x)
8	S				x						(x)									
9	P						x								(x)					(x)
10	P																			(x)
11	P				(x)		x													
12	S	(x)																		
13	S	(x)																		
14	P																			
15	P										x				(x)					
16	P				(x)						x				(x)					
17	P		(x)																	
18	S					x		(x)												
19	S	x						(x)				x					(x)			
20	S							(x)												
21	S							(x)												
22	S							(x)												
23	S							(x)												
24	S							(x)												
25	P				(x)						x							x		
26	P				x	(x)														
27	P				x	(x)					x									
28	P				x	(x)					x									
29	P	x		x	x			(x)						x		x	x	x		
30	P	x		x	x			(x)						x		x	x	x		
31	P	(x)		x	x			(x)	x					x		x	x	x		
32	P					x	x			x	(x)									
33	P						x				(x)									
34	P		(x)								x									
35	P								x		(x)									
36	P		(x)								x									
37	P										(x)									
38	P										(x)									
39	S		x																	(x)
40	S										(x)									
41	S												(x)							
42	S		(x)																	
43	S				x	(x)					x									
44	P						(x)													
45	P		(x)																	
46	P														(x)					
47	S																			
48	P					x					(x)					x				
49	P					x					(x)					x				
50	P					x					(x)					x				
51	P									(x)										
52	P			x		x						x						x		(x)

(x) — major emphasis, but may include other minor topics or data
 x — data with discussion
 — — data presented but discussion minimal or lacking

Table A-4 (cont'd.)

CROSS-REFERENCE OF DATA TYPES CONTAINED IN INDIVIDUAL REPORTS COMPILED IN NSRPB 208 STUDY

Ref. No.	Type	Alternative Analysis	Administration	Biology	Chemistry	Data Acquisition	Demography	Ecology	Economics	Geology	Hydrogeology	Legal	Meteorology	Microbiology	Modeling	Nutrient Chemistry	Physical Oceanography	Pollutant Sources	Toxicology	Residuals
53	S											(x)		x						
54	S																	(x)		x
55	S										x							(x)		x
56	S	(x)									x									
57	S				x	(x)														
58	P	x			x	x								x	(x)	x	x	x		
59	P	x			x	x								x	(x)	x	x	x		
60	P	x			x	(x)								x		x	x	x		
61	P		(x)												x					
62	P	x			x	(x)								x		x	x	x		
63	P				x	(x)														
64	P	x			x	x								x	(x)	x	x	x		
65	P			(x)																
68	P	x			x	x								x	(x)	x	x	x		
67	P		(x)					x							x					
68	P				x	(x)								x		x	x	x		
69	P				x	(x)								x		x	x	x		
70	P				x	(x)								x		x	x	x		
71	P		x												(x)					
72	P	x			x	x								x	(x)	x	x	x		
73	P	x			x	x								x	(x)	x	x	x		
74	P				x	(x)								x		x	x	x		
75	P					x									(x)					
76	S											(x)								
77	P				x	(x)								x		x	x	x		
78	P				x	(x)								x		x	x	x		
79	P			x		x								x			(x)			
80	P	(x)			x									x		x	x	x		
81	P				x	(x)								x		x	x	x		
82	P				x	(x)								x	(x)	x	x	x		
83	P				x	(x)								x		x	x	x		
84	P					x									(x)					
85	P	x			x	x								x	(x)	x	x	x		
86	P	x			x	x								x	(x)	x	x	x		
87	P	x			x	x								x	(x)	x	x	x		
88	P					x									(x)					
89	P	(x)			x	x								x	(x)	x	x	x		
90	P				x	(x)								x		x	x	x		
91	P																			
92	P	x								x	x				(x)					
93	P	x								x	(x)									
94	P	x								x	(x)									
95	P	x								x	(x)				(x)					
96	P				x	x	x												x	x
97	P	(x)			x	x	x												x	x
98	P	(x)			x	x	x												x	x
99	P	(x)			x	x	x												x	x
100	P		(x)																	
101	P						(x)				x					x		(x)		
102	P				x	x	x						x	x		x		(x)		
103	P				x	x								x		x		(x)		
104	P				x	x								x		x		(x)		

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x — data with discussion
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Table A-4 (cont'd.)

CROSS-REFERENCE OF DATA TYPES CONTAINED IN INDIVIDUAL REPORTS COMPILED IN NSRPB 208 STUDY

Ref. No.	Type	Alternative Analysis	Administration	Biology	Chemistry	Data Acquisition	Demography	Ecology	Economics	Geology	Hydrogeology	Legal	Meteorology	Microbiology	Modeling	Nutrient Chemistry	Physical Oceanography	Pollutant Sources	Toxicology	Residuals
105	P																			
106	S																			
107	P																			
108	S	(x)																		
109	P																			
110	P	x																		
111	P		(x)																	(x)
112	S		(x)																	
113	P																			
114	P		(x)																	
115	P	(x)							x											
116	P	(x)							x											x
117	P	(x)							x											
118	P											(x)								x
119	S										x				(x)	x				
120	S	(x)									x									
121	P																			
122	S									x	x									(x)
123	P															(x)				(x)
124	P	(x)							(x)											x
125	P										x									x
126	P										(x)									(x)
127	P									x	(x)									
128	P																			
129	P																			
130	P																			
131	P												x							x
132	P																			(x)
133	P			x		x														x
134	P			(x)		x														
135	P					x														
136	P					x				x	(x)									
137	P					x														
138	P																			x
139	P			x																(x)
140	S																			
141	S																			
142	S																			
143	P			x																
144	P					x														
145	P					x														
146	P					x														
147	P																			
148	P		x																	
149	P			x																
150	P																			
151	P																			
152	P																			
153	P																			
154	P	x																		
155	P	x																		
156	P	x																		

(x) — major emphasis, but may include other minor topics or data
 x — data with discussion
 — — data presented but discussion minimal or lacking

A.3 BIBLIOGRAPHIC SUMMARY

Primary and Secondary Data Sources Generated During Nassau-Suffolk 208 Study. Primary sources are those developed or used as main data inputs for the 208 Study. Secondary sources are reports or data relevant to 208 as background information, but not specifically used in calculations or included in data analysis.

1. Nassau-Suffolk 208 Project Control Program 6/76—SUNY
2. Modeling Studies in the Long Island "208" Interim Report 7/77—SUNY
3. An Assessment of the Human Viral Population in Long Island Aquatic Resources 2/14/77 Progress Report—BNL
4. An Assessment of the Human Viral Hazard to Long Island Aquatic Resources 12/17/76—Interim Report—BNL
5. An Assessment of the Occurrence of Human Viruses in Long Island Aquatic System 10/77—BNL
6. Report on Aldicarb 2/2/77—CES
7. Brief Progress Review: Leaching of Nitrogen Due to Fertilizers—CES
8. Preliminary: Recharge Model for Nassau and Suffolk Counties, New York—CES
9. Memorandum: 4/29/76 Pesticide Use in Nassau and Suffolk—CES
10. Memorandum: 4/29/76 Assessment of Aldicarb—CES
11. Assessment of Nitrogen Sources—A Summary 8/1/77 (First Draft)—CES
12. Videotape Program—CES
13. Preliminary Videotape Script—CES
14. A Recharge Model for Nassau and Suffolk Counties Long Island—CES
15. Memorandum: Progress in developing nitrogen model and assessment of nitrogen sources 9/6/77—CES
16. Organic Sampling of Nassau and Suffolk Groundwater Wells—ERCO
17. Technical Proposal—Groundwater sampling for organics—ERCO
18. Memorandum: Sites for Environmental Assessment—ERCO
19. Memorandum: D. O. Standards 4/11/77—ERCO

20. Memorandum: Proposed Analysis for Great South Bay; Options for Further Analysis—ERCO
21. Outline of Assessment Methodology for Long Island Bays—ERCO
22. Memorandum: Answers to Questions Posed by TAC Members About ERCO's Proposed Approach—ERCO
23. Sites for Environmental Assessment Memorandum 3/21/77—ERCO
24. Proposed Environmental Analysis of Peconic Bay and Port Jefferson Harbor if they are Selected as Sites for Analysis. Memorandum—ERCO
25. Determination of Organic Contamination in Ground and Surface Waters—ERCO
26. Nassau-Suffolk Organic and Metal Sampling Program 1976-1977—ERCO
27. Sampling of Ground and Surface Water in Nassau and Suffolk Counties, Long Island 6/6/77—ERCO
28. Volatile Organics Analysis—Procedure for Nassau-Suffolk Water Samples 6/6/77—ERCO
29. Port Jefferson Harbor Environmental Report (Draft) 6/77—ERCO
30. Peconic Estuary, Flanders Bay Environmental Report 9/77 (Draft)—ERCO
31. Environmental Tradeoffs on Long Island with Respect to Areawide Waste Management 9/19/77—ERCO
32. Water-Supply Philosophies and 208 Planning (Preliminary)—G&M
33. Memorandum: Survey of Water Supply Proposals for the Nassau-Suffolk Planning Region (Preliminary)—G&M
34. Groundwater Quality Consulting Services Section 208 Waste Treatment Management Planning Grant Technical Proposal—G&M
35. Hydrogeologic Factors Indicating the Relationship between Shallow and Deep Groundwater Flow Systems—G&M
36. Proposal: Investigation of the Potential Impact of Industrial Waste Disposal on Groundwater Quality 12/13/76—G&M
37. Groundwater Quality of Nassau and Suffolk Counties—G&M
38. Sources of Groundwater Contamination in Nassau and Suffolk Counties—G&M
39. Refuse Power Plant Technology. State of the Art Review—Grumman Ecosystems Corporation 12/16/77—NSRPB
40. Presentation by Long Island Task Force Investigating Carcinogens in Drinking Water 5/19/77—NSRPB
41. Amendment to the Federal Water Pollution Control Act Emphasizing Multiple Use 8/4/77—NSRPB
42. Submittal of Plan Elements 5/9/77—NSRPB

43. Chronological Summary of Organics Sampling Municipal Water Supplies, Nassau County 5/31/77—NCDH
44. Population Estimates and Projections 1975-1995—NSRPB
45. Workplan and Scope of Services May 1975—NSRPB
46. Modeling Studies, Interim Report Series 2: September, 1977—NSRPB
47. Stormwater Runoff Management and Soil Erosion and Sedimentation Control Alternatives—SCSWCD
48. South Fork Data Report Parts 1 and 2 (Data Collected Summer 1975) "Preliminary Hydrologic Investigations of the South Fork of Long Island" 5/76—Princ.
49. South Fork Project Interim Report 2/77—Princ.
50. Simulation of Salt-Water Upconing Beneath a Pumping Well 2/77—Princ.
51. Nassau County—General Soil Map and Interpretations July 1976—SCSWCD
52. Animal Waste: Control and Management Alternatives—SCSWCD
53. Memorandum: re 6/3/76 Bathing Beach Closures Due to Water Quality—SCDH
54. Memorandum: re 3/21/77 Present and Future Industrial Flows, Loadings and Water Needs as Prepared by Roy F. Weston—RFW
55. Written Communication: Port Jefferson Sewer District No. 1—201 Facility Plan Waste Load Allocation 4/12/77—RFW
56. Written Communication: re Flow Augmentation 3/3/77—SCDEC
57. Non-Point Source data: LIE—Recharge Basin at Breeze Avenue (Ronkonkoma) 7/7/76 Data—SCDEC
58. Water Quality Modeling Port Jefferson Harbor, Long Island, New York 4/77—TT
59. Water Quality Modeling Oyster Bay, Cold Spring Harbor, Long Island, New York (Preliminary) 4/77—TT
60. Hydrologic and Water Quality Data Report Carlls River System, Long Island, New York 4/76—TT
61. Technical Proposal Nassau-Suffolk County Water Quality Modeling Studies (Budget Proposal)—TT
62. Hydrologic and Water Quality Data Report: Hempstead Bay, Middle Bay, East Bay, South Oyster Bay, Great South Bay 9/76—TT
63. Field Sampling Program Recommendations Great South Bay, South Oyster Bay, East Bay, Middle Bay, Hempstead Bay—TT
64. Water Quality Modeling Peconic Estuary, Flanders Bay—TT

65. Eelgrass Production in Long Island Waters 5/76—TT
66. Water Quality Modeling Port Jefferson Harbor, Long Island, New York, 12/76—TT
67. Stream—Aquifer Model for Carl's River 9/76 Technical Proposal—TT
68. Hydrologic and Water Quality Data Report: Peconic Estuary, Peconic River, Flanders Bay, Long Island, New York 7/76—TT
69. Hydrologic and Water Quality Data Report: Port Jefferson, Oyster Bay, Huntington-Northport Complex, Long Island, New York 6/76—TT
70. Hydrologic and Water Quality Data Report: Manhasset Bay, Hempstead Harbor, Long Island, New York 5/76—TT
71. User's Guide for the Two River Water Quality Models, Long Island, New York 3/77—TT
72. Water Quality Modeling Port Jefferson Harbor, Long Island, New York 3/77—TT
73. Water Quality Modeling Peconic Estuary, Flanders Bay, Long Island, New York 3/77—TT
74. Water Quality Evaluation Mecox Bay, Long Island, New York—TT
75. Card Decks—Surface Models—TT
76. Written Communication: Dissolved Oxygen Criteria for Marine Waters—TT
77. Swan River and Penataquit Creek Data 6/76—SCDEC
78. Sampawam's Creek Data 7/16/76—SCDEC
79. Benthic Oxygen Demand Measurements in Long Island Bays 5/77—TT
80. Recommended Waste Treatment Requirements for Flanders Bay/Peconic Estuary 5/26/77—TT
81. Water Quality Evaluation Western Long Island Sound 5/77—TT
82. Water Quality Modeling Manhasset Bay, Long Island, New York 5/77—TT
83. Water Quality Evaluation Nearshore Atlantic Ocean—TT
84. Draft User's Manual for Stream-Aquifer Model 5/77—TT
85. Water Quality Modeling—Hempstead Bay, Middle Bay, East Bay, South Oyster Bay, Great South Bay 7/77—TT
86. Water Quality Modeling Huntington Bay (Addendum attached) 6/77—TT
87. Water Quality Modeling Draft Report—Chapter III Oyster Bay, Cold Spring Harbor 7/77—TT

88. Documentation Report for the Estuary Water Quality Models 5/77—TT
89. Modeling of Manhasset Bay Waste Management Alternatives 7/1/77—TT
90. Water Quality Evaluation Mecox Bay, Long Island, New York Revises 9/77—TT
91. Final Report User's Manual for Stream Aquifer Model 8/77—TT
92. Analog-Model Analysis of Effects of Wastewater Management on the Groundwater Reservoir in Nassau and Suffolk Counties, New York—Report II: Recharge with Wastewater—USGS
93. Report I: Proposed and Current Sewerage—USGS
94. Report III: Reduction and Redistribution of Groundwater Pumpage—USGS
95. Potentiometric Surfaces of the Upper Glacial and Magothy Aquifers and Selected Streamflow Statistics, 1943-1972, on Long Island, New York—USGS
96. Nassau-Suffolk 208 Domestic and Industrial Point Source Inventory and Evaluation 7/76—RFW
97. Nassau-Suffolk 208 Suffolk County Structural Abatement Alternative Components 1/77—RFW
98. Suffolk County Point Source Structural Abatement Alternatives 2/14/77 (Preliminary)—RFW
99. Nassau County Point Source Structural Abatement Alternative Components 1/77—RFW
100. Proposal for: Assistance in Preparation of Areawide Waste Treatment Management Plan 9/10/76—RFW
101. Population Density and Sewering—RFW
102. The Non-Point Source Program: Determining the Total Pollutational Load During a Rainfall Event Memorandum 1/31/77—RFW
103. Nassau County Point Source Flows and Loadings (Revised)—RFW
104. Present and Future Industrial Flows, Loadings and Water Needs 3/21/77—RFW
105. Manhasset Bay Point Sources—RFW
106. Summary of meeting on Stream Loadings and Streams to be Sampled—Great South Bay 8/23/76—RFW
107. Non-Point Source Pollutant Loads and Runoff Volumes to the Nassau-Suffolk Bays from 0.5, 1.0, and 2.0 Inch Rainfall Events 4/4/77—RFW
108. Correspondence 2/25/77 Critique of Meadow Marsh System of Waste Treatment—RFW
109. Suffolk County Point Source Flows and Loadings 5/15/77—RFW

110. Nassau-Suffolk 208 Residual Waste Inventory/Analysis Draft Report 9/77—RFW
111. Proposal Documents—W/C
112. Amendment to No. 111—W/C
113. Assessment of Geohydrologic Conditions North Fork and Shelter Island, Long Island, New York—W/C
114. Proposal for Technical and Professional Services Relating to Groundwater Studies for Section 208 Plan of NSRPB—W/C
115. Nassau-Suffolk 208 Study—Investigation into the Application of New Technology to Areawide Wastewater Management 9/77—RFW
116. Suffolk County Structural Management Approach 9/77—RFW
117. Non-Point Source Runoff Control/Treatment—RFW
118. Draft Outline of the Law Controlling the Use of Agricultural Chemicals in Nassau and Suffolk Counties—CES
119. Addendum to previous memos on Recharge/Nitrogen Model—CES
120. Options for On-Site Waste Disposal 8/77—G&M
121. Zachs Bay Boat Pollution Survey (Draft) 8/77—NCDH
122. Working Paper on Septic Tank/Cesspool Density Issue—G&M
123. Population Density vs. Nitrate Loading—G&M
124. Costs of Structural Abatement Alternatives for Nassau and Suffolk Counties—RFW
125. Population Density, Groundwater Nitrate Concentrations and Sewering: Addendum to Weston Memo of 17 January 1977—RFW
126. Groundwater Studies for Section 208 Plan. Nassau and Suffolk Counties, Long Island, New York. Vol. I, 10/77—W/C
127. Groundwater Studies for Section 208 Plan. Nassau and Suffolk Counties, Long Island, New York. Vol. II, 10/77—W/C
128. Historical Values for Point Sources and Boundary Conditions in Modeling Oyster Bay, Hempstead Harbor, and South Shore Bays (Nassau County) August, 1977—NCDH
129. Historical Values for Point Sources and Boundary Conditions in Modeling Manhasset Bay, August, 1977—NCDH
130. Trace organics and heavy metals sampling and analysis. Card and computer printout. Raw Data—SCDHS

131. Stormwater Runoff Data—SCDEC
 - a. Heartland Industrial Park (7/16, 7/29, 10/20, 11/29) (1976)
 - b. L.I.E.—Recharge Basin at Breeze Avenue (Ronkonkoma) (7/7, 7/16, 7/29, 10/20, 11/29, 12/7) (1976)
 - c. L.I.E.—Recharge Basin at Breeze Avenue and Recharge Basin s/o L.I.E. at Exit 58—Groundwater Sample Data (9/28, 10/21/76, 2/17/77)
 - d. Sampawams Creek (7/16/76)
 - e. Penataquit Creek (6/29, 9/27) (1976)
 - f. Swan River (6/29, 9/30) (1976)

132. Surface Water Contour Maps (1976)—SCDEC

133. Surface Water Quality and Point Source Data (Chemistry and Biology)—SCDEC
 - Peconic Estuary/Flanders Bay (7/20, 8/24, 9/9)
 - Huntington Bay (6/22, 7/15, 8/18)
 - Port Jefferson Harbor (6/10, 7/8)
 - Great South Bay (9/14—21)
 - Carll's River (5/27, 8/3, 10/15)
 - Peconic River (7/22, 10/19/76, 4/13/77)

134. Surface Water Quality Data (Biology—Phytoplankton)—SCDEC
 - Port Jefferson Harbor (1976 & 1977)
 - Great South Bay (1976 & 1977)

135. Stream—Aquifer (Carll's River) Hydraulic and Meteorological Data (1976)—SCDEC

136. Specific capacity pump tests for shallow aquifer wells—South Fork SCDEC

137. Wet-weather, non-point source pollutant loads in Nassau and Suffolk Counties—RFW

138. New York State Department of Environmental Conservation, State Pollution Discharge Elimination System, List of Permitted Discharges, NYDEC

139. New York State DEC Shellfish Growing Area Files—NYDEC

140. The New York State Environmental Conservation Law of 1972—NYDEC

141. New York State Codes, Rules and Regulations, Title 6 (Environmental Conservation)—NYDEC

142. New York State Pollutant Discharge Elimination System, Discharge Monitoring Reports—NYDEC

143. New York State Department of Environmental Conservation, Tidal Wetlands Inventory of 1974—NYDEC

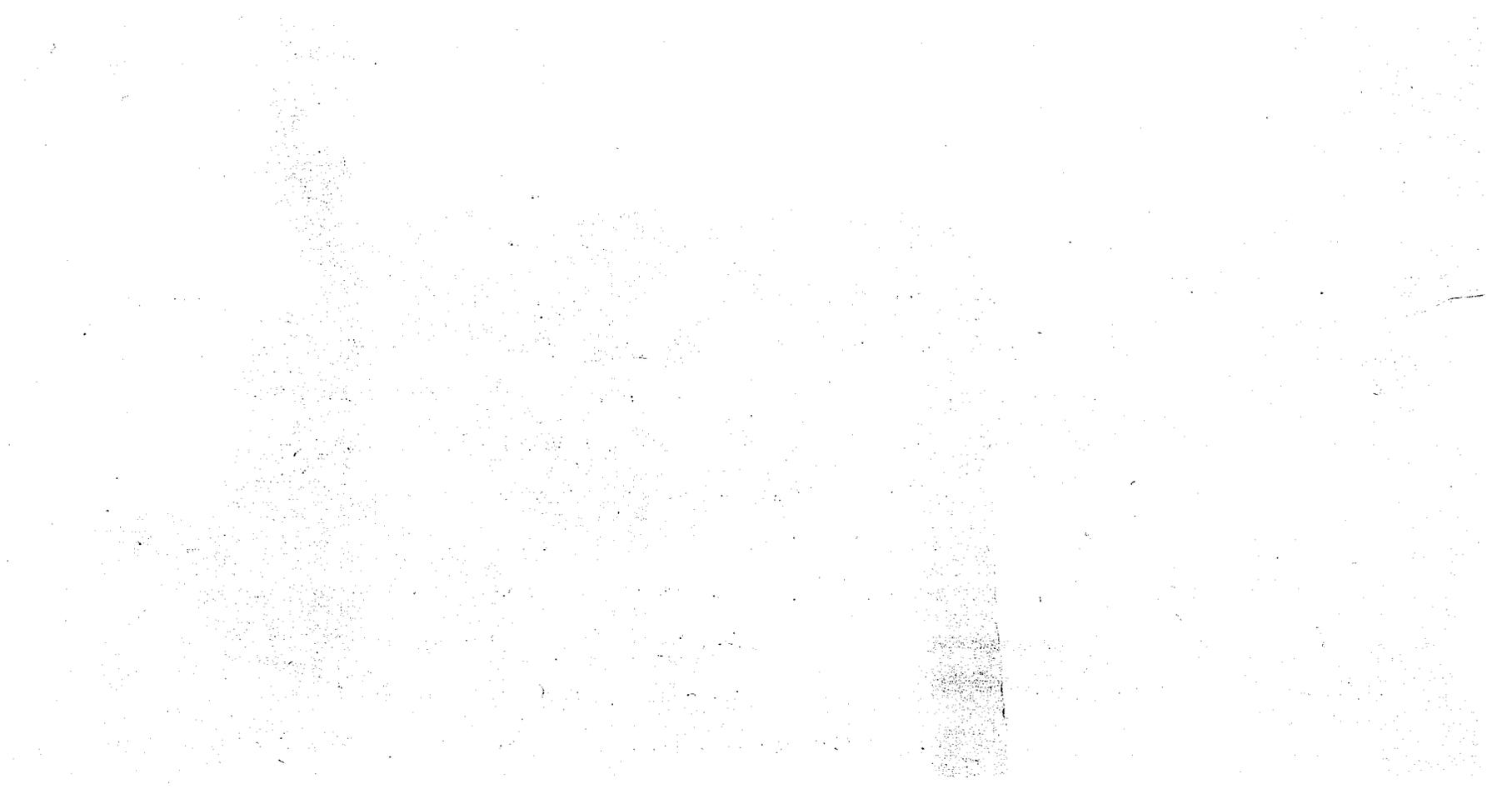
144. Marine Surface Water Quality data (1976) NCDH
 - Manhasset Bay (5/25, 6/2, 6/3, 6/4, 6/9, 10/14, 10/15, 10/21, 10/22, 10/23, 10/25)
 - Hempstead Harbor (7/14, 7/15, 7/21, 7/22, 7/23, 7/25, 11/3, 11/29, 11/30, 12/1, 12/6)
 - Oyster Bay (8/23)
 - Western South Shore Bays (9/14, 9/17, 9/18, 9/19, 9/21, 9/23)

145. Shorewater Runoff Data (1976) NCDH
 - Valley Stream (3/12, 3/13)
 - Massapequa Creek (2/22, 3/31, 4/1, 4/25, 4/26)
 - Cedar Swamp Creek (4/22, 5/1, 5/2, 5/11)
 - Mill Neck Creek [Beaver Lake] (5/19)
146. Stormwater Runoff Data (1976) SCSWCD
 - Baldwin (6/29, 7/16, 7/23, 7/26, 7/27)
 - Lake Success (7/7, 7/16, 7/23, 7/26, 7/27)
 - Miller Place (8/8)
 - Sagaponack (6/1, 6/15, 8/1, 9/17)
 - Wildwood (8/27, 10/9)
147. NSRPB report—208 Planning Boundaries (pursuant to 40 CFR 131 Subpart a)
148. NSRPB report—208 Water Quality Assessment (pursuant to 40 CFR 131 Subpart b)
149. NSRPB report—208 Pollutant Source Inventory and Projection (pursuant to 40 CFR 131 Subpart c)
150. NSRPB report—208 Non-Point Source Assessment (pursuant to 40 CFR 131 Subpart d)
151. NSRPB report—208 Water Quality Standards (pursuant to 40 CFR 131 Subpart e)
152. NSRPB report—208 Total Maximum Daily Pollutant Loads (pursuant to 40 CFR 131 Subpart f)
153. NSRPB report—208 Point Source Load Allocations (pursuant to 40 CFR 131 Subpart g)
154. NSRPB report—208 Municipal Waste Treatment Systems Needs (pursuant to 40 CFR 131 Subpart h)
155. NSRPB report—208 Industrial Waste Treatment System Needs (pursuant to 40 CFR 131 Subpart i)
156. NSRPB report—208 Non-Point Source Control Needs (pursuant to 40 CFR 131 Subpart j)
157. NSRPB report—208 Residual Waste Control Needs (pursuant to 40 CFR 131 Subpart k)
158. NSRPB report—208 Urban and Industrial Stormwater Needs (pursuant to 40 CFR 131 Subpart l)
159. NSRPB report—208 Target Abatement Dates (pursuant to 40 CFR 131 Subpart m)
160. NSRPB report—208 Regulatory Programs (pursuant to 40 CFR 131 Subpart n)
161. NSRPB report—208 Management Agencies (pursuant to 40 CFR 131 Subpart o)
162. NSRPB report—208 Environmental Economic Impact (pursuant to 40 CFR 131 Subpart p)

Note: In the text, all Subparts are referred to as Sections, e.g., Section a is Subpart a.

163. NSRPB report—Citizen Participation (pursuant to 40 CFR 131 Subpart Citizen Participation)
164. Water Quality Modeling—Hempstead Bay, Middle Bay, East Bay, South Oyster Bay, Great South Bay, Long Island, New York—TT
165. NSRPB report—Animal Waste: Non-Point Source Pollution
166. NSRPB Interim Report Series: 1—Population Estimates and Projections
167. NSRPB Interim Report Series: 2—Modeling Studies
168. NSRPB Interim Report Series: 3—Surface Water Quality
169. NSRPB Interim Report Series: 4—Groundwater Conditions
170. NSRPB Interim Report Series: 5—Point and Non-Point Options
171. NSRPB Interim Report Series: 6—Virus Study
172. NSRPB Interim Report Series: 7—Summary Plan

Map Section



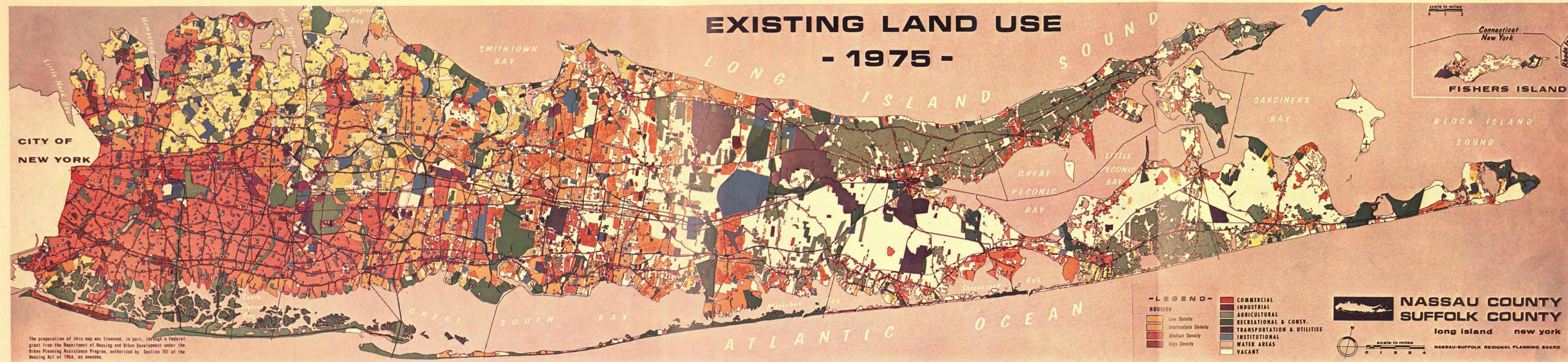


Figure 2-1

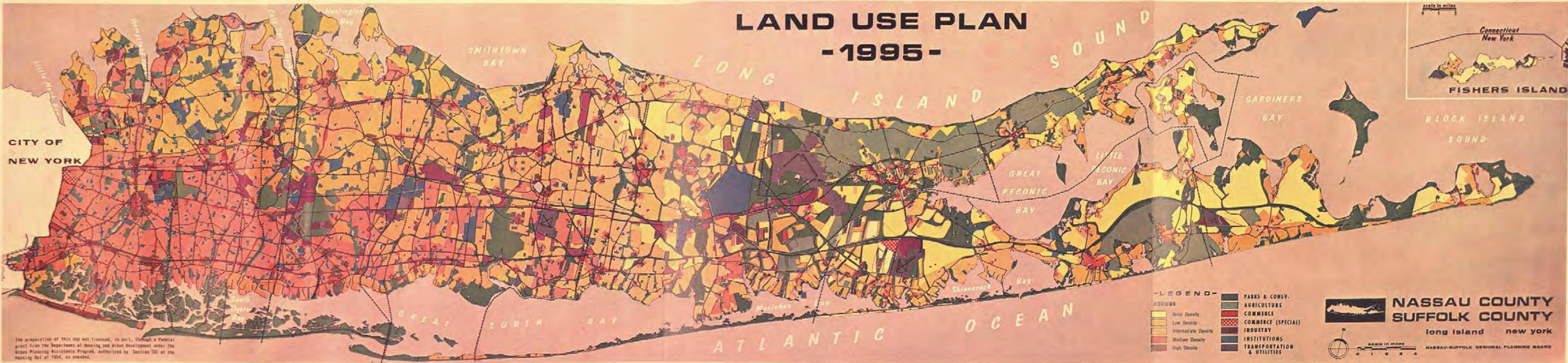


Figure 2-2