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Interim Report
on
Mapping and Analysis of Geographic Areas
of Particular Concern for their Natural
Resource Values
(Tasks 7.3)
April 1976

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New York State Dept. of Environmental Conservation

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DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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Interim Report
on

Mapping and Analysis of Geographic Areas of Particular Concern for Their Natural Resource Values
(Task 7.3)

Prepared by

New York State Department of Environmental Conservation
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Introduction

This report is being submitted as required under Task 7.3 of the FY 1975 CZM work program, which calls for the mapping and analysis of geographic areas of particular concern (GAPC) for their natural resource values as a basis for the subsequent designation of permissible and priority uses. Included in the appendix is a memorandum describing the work performed under Task 7.1 - The mapping and analysis of freshwater and tidal wetlands, which are also GAPC's. Also in the appendix is a memorandum describing the Wild and Scenic Rivers Program, portions of which relate to the Coastal Zone Program in the Hudson River Valley and Long Island. Finally, reference is made to mapping done by other subcontractors on geographic areas of particular concern within their respective jurisdictions.

The report is divided into four sections, each of which is briefly summarized as follows:

Section I - Selection of geographic areas of particular concern for mapping and analysis. Using CZM rules and regulations pertaining to types of "geographical areas of particular concern" to consider for mapping and analysis, this section discusses DEC's rationale for selecting the types of these areas appropriate for DEC to identify and map as natural critical areas under Task 7.3. Only those geographic areas were considered: (1) with inherent and/or dedicated natural resource value; (2) which possess special productive value; (3) where there may be special environmental problems associated with development; and (4) where development and/or natural forces and factors have created special environmental problems. Using these guidelines, twenty-two geographic areas were selected as natural critical areas for mapping and analysis.

Section II - Summary of Work Performed for Each GAPC Natural Critical Area. This section describes the work done in the first year and the status of DEC and other subcontractor efforts to map and analyze the natural critical areas selected as noted in Section I. There is a discussion of the problems which resulted from the lack of guidelines for mapping. Also described are visits to other subcontractors to determine what they were doing as well as to inform them of DEC's efforts.

Section III - Recommendations for second year mapping program. This section presents DEC's recommendations for completing the mapping and analysis of each GAPC natural critical area during the second year of the CZM program. Many of the recommendations propose field work which could not be undertaken during the first year due to lack of time or available expertise.

Section IV - Appendices. This section presents the memoranda and sets of maps produced by DEC under tasks 7.1 and 7.3; and a memorandum discussing the Wild and Scenic Rivers Program as it relates to the CZM program.

Section I. Selection of GAPC natural critical areas for mapping and analysis.

Under Activity No. 7, Analysis of Natural Resources, DEC as a subcontractor was given major responsibilities in the FY 1975 work program to provide basic and essential resource data needed for the subsequent development of a viable Coastal Zone Management Program. The products expected included maps of coastal zone resources and analyses of the significance of these resources.

In carrying out its mapping and analysis responsibilities under Task 7.3, DEC first needed to define more precisely the types of "geographic areas of particular concern" that would be appropriate for the agency to identify and map so that in the management program, "specific areas may be designated for the purpose of preserving or restoring them for their conservation, recreational, ecological, or esthetic values" (from section 306 (c) (9) of the CZM Act.).

CZM rules and regulations pertaining to GAPC's were reviewed. The regulations specify a number of different broad types of geographic areas to consider, including:

1. Areas of unique, scarce, fragile, or vulnerable natural habitats, physical features, historical significance, cultural values, and scenic importance;
2. Areas of high natural productivity or essential habitat for living resources, including fish, wildlife, and the various trophic levels in the food web critical to their well-being;
3. Areas of substantial recreational value and/or opportunity;
4. Areas where developments and facilities are dependent upon the utilization of, or access to, coastal waters;
5. Areas of unique geologic or topographic significance to industrial or commercial development;
6. Areas of urban concentration where shoreline utilization and water uses are highly competitive;

7. Areas of significant hazard if developed, due to storms, slides, floods, erosion, settlement, etc.; and
8. Areas needed to protect, maintain or replenish coastal lands or resources, such areas including coastal flood plains, aquifer recharge areas, sand dunes, coral and other reefs, beaches, offshore sand deposits, and mangrove stands.

Obviously, not all the geographic areas indicated above can be considered as natural critical areas for mapping under the work tasks assigned to DEC. In particular, out of these eight broad geographical areas, only items 1, 2, 7, and 8 have the following characteristics that define them as natural critical areas: (1) inherent and/or dedicated natural resource values; (2) special productive values; (3) where special environmental problems are associated with development; and (4) where development and/or natural forces and factors have created special environmental problems.

The other types of geographical areas - items 3, 4, 5 and 6 - are significant for commercial, industrial, or recreational purposes. Their identification and mapping is therefore outside the responsibility of DEC and should be undertaken by more appropriate contractors, such as the local planning agencies.

Until quite recently, consideration of natural critical areas has been essentially utilitarian. From this perspective critical areas have been viewed not so much in terms of their intrinsic values but in relation to ongoing land development and for sustaining hunting and fishing. This approach has focused primary attention usually on rather specific geographic areas possessing a physical and functional quality, uniqueness and relationship to meeting specific user demands. In recent years the increased acceptance of the emerging concept of "land suitability for development" has resulted in a new perspective on the identification of natural critical areas. This perspective gives emphasis to preserving and protecting distinctive natural features and natural systems. Tidal and freshwater wetlands protection; flood plain management; the establishment of agricultural districts; and wild, scenic and recreational rivers areas' protection are examples of this approach.

An added dimension to the land suitability approach is that of impact assessments of land and water use capabilities for development. Natural features usually considered in such assessments include: (1) slope, bedrock and surficial geology and soil conditions; (2) natural hazards such as flooding and erosion; and (3) ecologically sensitive areas such as significant fish and wildlife habitats. Assessments of this kind may be developed for the natural resource conditions in large areas such as the Adirondacks or the Catskills or they may be done in more detail for specific project sites.

Based on the foregoing considerations and for the subsequent development of the CZM program, DEC has selected twenty-two types of "geographic areas of particular concern" for identification, mapping and analysis as natural critical areas. The twenty-two areas are divided into three major groups which recognize both the utilitarian and intrinsic characteristics of the natural resources base. They are as follows:

I. Fragile, unique and/or dedicated resource areas where development not carefully controlled and regulated could result in loss of valuable natural resources and/or irreversible damage to the natural environment. In many cases complete protection from development will be required. These areas would include:

   1. Essential or productive wildlife habitats: littoral zone; shellfish beds; tidal and freshwater wetlands with associated upland buffer zones; embayments; estuaries; tributary streams, lakes and ponds used for spawning, nurseries, waterfowl nesting; fish and wildlife concentration areas.
   2. Special ecological areas: endangered or threatened wildlife species habitat;
   3. Urban open space suitable as wildlife habitat.
   4. Rare or endangered plant communities;
   5. Flood prone areas undeveloped or significantly undeveloped.

6. Special biophysical areas; shoals; sand dunes; barrier beaches, bluffs and cliffs; swales.

7. Special physical features; gorges; waterfalls; unusual geologic formations.

8. Areas of historic significance: indian campsites; significant remains of earlier life forms.

9. Areas of scenic significance: natural scenic viewpoints and the foregrounds of such significant views of natural or essentially natural areas; scenic transportation corridors.

10. Non-developed land and water areas acquired by the state or private interests for public non-intensive open-space recreation uses, forest management, wildlife management and natural area protection: state reforestation areas; wildlife management areas; multiple use areas; parks (with significant non-developed and natural open space area); State nature and historic preserve areas; county, municipal and private forests; wildlife preserves; and natural areas.

II. Special natural productive areas where development not carefully controlled and regulated could result in the loss, reduction or irreversible damage of continued long-term productivity and/or use to meet water, food, fiber, mineral resource and energy requirements. These areas would include:

11. Prime and unique agriculture areas.

12. Prime forest areas.

13. Prime aquifers and aquifer recharge areas.

14. Water supply lands: surface and ground-water sources.

15. Valuable mineral resource areas: sand; gravel; natural gas; oil deposits; other valuable minerals.

III. Special natural problem areas (1) where development not carefully regulated and controlled could mean endangerment to life, property and the natural environment or (2) where development and/or natural forces and factors have created special environmental problems. These areas would include:

16. Flood prone areas developed or significantly developed.
17. Slopes of 15% or greater.
18. Areas where geophysical conditions are not naturally suitable for general development; where bedrock or other impermeable material is within 3 feet or less of the existing ground surface; where soil is saturated with water within 3 feet of the surface for 2 to 12 months of the year.
19. Special problem areas: shoreline erosion;
20. Special problem areas: abandoned sand and gravel pits.
21. Special problem areas: air pollution.
22. Special problem areas: water pollution.

The fragile and unique resource areas and the special natural productive areas have the highest priority for identification. These areas possess discrete and specific natural resource values. In considering Permissible Land and Water Uses in the CZM Program, these areas will receive specific consideration for preservation and/or restoration according to section 306 (c) (9) of the CZM act. This will include the identification and subsequent application of measures to control any future development and to minimize damage to natural systems. Where development is to be allowed, rigorous performance standards will be applied.

The special natural problem areas have second priority for identification. These areas possess specific geophysical constraints for development which must receive special consideration to protect life, property and the natural environment.

Special attention will be focused in the CZM program on determining performance standards for land and water uses in the natural problem areas as a guide to environmentally compatible future development. This will include identification of and necessary measures to insure appropriate controls over development to protect and/or preserve biophysically or geophysically related (1) fragile and unique resources and (2) special natural productive areas. The following section indicates the work which has been and is being done by DEC and others on each item.

Section II. Summary of work performed for each GAPC natural critical area.

This section describes the work which has been done and the current status of DEC efforts to map and analyze the natural critical areas listed above. First, however, several general comments are appropriate since a number of factors, some of which were originally unforseen, have affected the status of the first year work program.

A major problem from the beginning for DEC and the other subcontractors in undertaking mapping and analysis activities has been the lack of overall direction in clarifying: (1) the criteria to be used for mapping geographic areas of particular concern, including the minimum size of an area to be mapped; (2) the method of mapping to be used with respect to overlays, symbols, map size, etc.; and (3) the division of responsibility for the mapping between DEC and the other subcontractors. While DEC did develop guidelines for the mechanics of mapping, these were not officially adopted or distributed to other subcontractors. As a result of the lack of direction, DEC and each subcontractor proceeded with the mapping and analysis on his own, using his own criteria and mapping methods.

Since the division of responsibility for mapping between DEC and the other subcontractors was not clear, DEC staff visited other subcontractors to determine what they were doing as well as to inform them of DEC's efforts. A major purpose of the visits was to prevent unnecessary duplication of mapping effort and to gain insight into sources of information for mapping or lack thereof. In addition, meetings were held with county planners in coastal zone counties having no subcontract to determine what information was or was not available. Where information was readily available, DEC has been doing the appropriate mapping. Where information was not readily available without undertaking special field studies, no mapping has been done, as is indicated below for each type of critical area so affected.

Meetings were held with the following subcontractors and county planning boards: Central New York Regional Planning and Development Board, Black River - St. Lawrence Regional Planning Board, Erie - Niagara Regional Planning Board, Chautauqua County Planning Board, Genesee - Finger Lakes Regional Planning Board, Monroe County Department of Planning, Capital District Regional Planning Commission, and the planning boards of Greene, Columbia, Dutchess, Orange, Ulster, Westchester and Rockland counties. In addition, the DEC regional office on Long Island worked closely with the Nassau-Suffolk Regional Planning Board which is mapping the coastal area of the two counties.

The discussion of natural critical areas beginning on page 12, based in part on information from the above-described meetings, summarizes the status of mapping for each type of critical area. Information is given concerning mapping done by subcontractors, areas mapped by the end of the first year's program, areas to be mapped by the end of the second year (assuming a second year contract), and areas for which information is not currently available for mapping but may be obtained for mapping during a second year program depending upon the availability of funds and manpower to carry out special studies. Detailed second year recommendations for these latter areas are presented below in Section III.

Criteria used for mapping are not discussed since each subcontractor used his own criteria and mapping methods. In an attempt to develop uniform statewide criteria to use in completing a second-year mapping program, DEC has developed and is proposing criteria for mapping a number of critical areas. These will be discussed with DOS early in the second year program.

Work maps on natural critical areas prepared by DEC have been done on a scale of 1:24,000 on a tracing paper using the DOT 7½ minute planimetric quadrangles as base maps. Each overlay is marked with the degree ticks at the edge of the quad to facilitate registration and is labeled with the name of the quadrangle on which the overlay is made.

The remainder of this section below summarizes mapping and analysis work performed in each of the natural critical areas (items one to twenty-two above). The complete reports and maps are available in Section IV.

Area #1 - Essential or productive wildlife habitats: littoral zone; shellfish beds; tidal and freshwater wetlands with associated upland buffer zones; embayments; estuaries; tributary streams; lakes and ponds used for spawning, nurseries, waterfowl nesting; fish and wildlife concentration areas.

Area #2 - Special ecological areas: endangered or threatened wildlife species habitat.

Area #3 - Urban open spaces suitable as wildlife habitat.

Included within the inventory of these natural critical GAPC's under Task 7.3 was the mapping and analysis of freshwater wetlands and a review of tidal wetlands delineation of Long Island carried out under Task 7.1. A memorandum describing each inventory is found in Section IV. DEC's Division of Fish and Wildlife was responsible for the assignment, with overall coordination provided by the Assistant Director. The division also supervised a contract with Cornell University to inventory freshwater wetlands in the coastal zone.

In addition to the wetlands inventories, emphasis was placed on boundary delineation and identification and preliminary assessment of significant fish and wildlife habitats. General procedures were to (1) develop a list of habitats of interest as appropriate for the study area under consideration; (2) locate and establish the boundaries of each habitat unit and (3) establish a suggested outer limit for the coastal zone boundary which would encompass each habitat as a functional unit. Two memoranda in Section IV describe in detail the habitat assessments for each U.S.G.S. quadrangle covered in the two study areas.

Geographic Areas Covered

Freshwater wetlands were inventoried in the Lake Ontario - St. Lawrence and Hudson River zones. Data was recorded on USGS 7½ minute topographic quadrangles on a county wide basis to better assess the relationship of these wetlands to the coastal zone. Over 30 percent of the quadrangles in these two zones have been completed.

Inventory of other significant fish and wildlife areas covered the north and south shore of Long Island and the Hudson River from New York City to Troy. The outer boundary for mapping was determined by the boundaries of significant areas furthest inland from the coastal land-water interface but still intimately associated with the coastal water.

Sources of Information

The wetlands inventory is based on the 1968 aerial photographic coverage of the state used to develop the L.U.N.R. system. Significant fish and wildlife habitats were identified through review and analysis of all available information, consultation with knowledgeable individuals and field checks as appropriate. The process began with an examination of Department files and interviews with Department staff. Existing literature such as inventory reports, planning reports and environmental impact assessments was reviewed. Other agencies, educational institutions and other natural resource-oriented organizations were contacted. Finally, professional and lay naturalists were interviewed. Some 57 individuals and organizations were contacted in the two zones.

Techniques and Methodology

Procedures for the freshwater wetlands inventory are described in the Memorandum

on the Freshwater Wetlands Inventory in Section IV. Other significant fish and wildlife habitats have been mapped on USGS 7½ minute quadrangles as described in existing reports by an individual or as established by field survey.

Criteria Used to Establish Significance of Fish and Wildlife Habitats

Categories of significant habitats were established for each of the zones inventoried. Criteria for establishing these categories were:

A. Habitat for species classified as rare, endangered or threatened.

B. Ecologically unique

C. Habitat essential to a critical phase in the life cycle of a species.

D. High productivity

E. Supports high level of recreational and or commercial use

F. Provides public access

Specific areas were assessed as significant based on existing documentation whenever possible. Mostly, however, judgments were made based on the assessment of professionals, the credentials of lay observers and an appraisal of similar assessments of individual areas.

Permissible Uses

Efforts were devoted to inventory of significant areas this year. No attempt was made to establish criteria for permissible uses as yet - except for the obvious that any permissible use should not impair the integrity of the area as significant for fish and wildlife. General kinds of permissible use for each category of significant area will be identified based on an assessment of the ecological, aesthetic and or recreational values of the area type.

First Year Output

Freshwater Wetlands Inventory - over 60 USGS 7½ minute quadrangles are available. A sample is attached in Section IV. A list of the maps available by quad name is in the memorandum on Freshwater Wetlands in Section IV.

Other significant habitat areas - 75 USGS minute quadrangles are available (Long Island - 42, Hudson River - 33). A sample is also attached in Section IV.

Area # 4 - Special Ecological Areas: Rare or Endangered Plant Communities.

No mapping of these areas was done by either DEC or the local subcontractors due to the need for extensive field studies by botanists to verify locations of such communities. However, the Central New York Regional Planning and Development Board did engage a local consultant to identify wildlife and plant habitat for Cayuga and Oswego Counties. It is not yet known if the results of this effort will mesh with the recommendation of the State Botany Survey in Section III for studying endangered vegetation in coastal zones during the second year program.

Area # 6 - Special Biophysical Areas: Shoals, Sand Dunes, Barrier Beaches, Bluffs and Cliffs, Swales.

Area # 7 - Special Physical Features: Gorges, Waterfalls, Unusual Geologic Formations.

DEC did not map any of these areas during the first year since much of the effort called for local field work which was not permitted because of fiscal and personnel constraints. However, several of the local subcontractors did map these areas, although guidelines for mapping were not available.

Area # 8 - Areas of Historic and Archeological Significance: Indian Campsites; Significant Remains of Earlier Life Forms.

Some of these areas were mapped by DEC and local subcontractors as indicated on Table number one. However, this was done without benefit of any guidelines, so that the same types of sites have not necessarily been mapped by each of the subcontractors.

DEC mapped historic sites along the Hudson River only since subcontractors in other areas either mapped such sites in the first year or are planning to map them in the second year. The DEC mapping, done for one mile on either side of the shoreline, was based on an inventory of historic sites prepared by the Hudson River Valley Commission.

Area # 9 - Areas of Scenic Significance: natural scenic viewpoints and the foregrounds of such significant views of natural or essentially natural areas; scenic transportation corridors.

No mapping of these areas was done by either DEC or the local subcontractors due to lack of criteria and the need for extensive field work. However, two coastal zone areas - the north shore of Long Island and the Westchester County shore - have had their areas of scenic significance recently inventoried and categorized as part of the Long Island Sound Study. This study, undertaken by Roy Mann Associates, Inc. and published under the title of "Shoreline Appearance and Design", developed a systematic assessment method in which established criteria for scenic values were used.

Area # 10 - Non-developed land and water areas acquired by the State or private interests for public non-intensive open space recreation uses, forest management, wildlife management, and natural area protection: State reforestation areas; wildlife management areas; multiple use areas; parks (with significant non-developed and natural open space areas); State Nature and Historical Preserve Areas; county, municipal and private forests; wildlife preserves; natural areas.

Some of these areas were mapped by either DEC or the local subcontractors during the first year. Remaining areas will be mapped during the second year.

Area # 11 - Prime and Unique Agricultural Areas.

Lack of criteria and specific directions for mapping resulted in little mapping of these areas being accomplished by DEC or other sub-contractors in the first year CZM program. Information exists locally and Statewide concerning the viability of the State's agricultural lands, as noted in Section III which describes Conklin's study on "The Nature and Distribution of Farming in New York State", and discusses the concept of the Agricultural District. Also, as discussed more

fully in Section III, the Soil Conservation Service's national program for inventorying prime and unique farmland will provide a great deal more information in the next several years.

Area #12 - Prime forest areas.

While some forest areas were mapped by local CZM subcontractors in the first year, lack of criteria for mapping prevented a uniform, complete effort from being accomplished. DEC itself did no mapping of forest areas.

Area #13 - Prime aquifer and aquifer recharge areas.

Area #14 - Water supply lands: surface and groundwater sources.

Mapping and analysis of these areas was covered under Task 8.5 in which a water supply study was undertaken to examine water use along the coastal zone and to identify ways in which the CZM program could protect and safeguard existing and potential sources of water supply. Another objective was to provide information to help determine a CZ boundary by identifying areas which, from a water supply standpoint, should be included within the boundary.

Area #15 - Valuable mineral resource areas: sand, gravel, natural gas, oil deposits, other valuable minerals.

Area #20 - Special problem areas: abandoned sand and gravel pits; other abandoned mineral resource operations.

No mapping of these areas was done by either DEC or the other subcontractors during the first year CZM program primarily because of lack of easily available data and the need for extensive field work. Criteria for mapping these areas were also not available.

Area #5 - Flood-prone areas undeveloped or significantly undeveloped - 100-year regional project flood.

Area # 16 - Flood-prone areas developed or significantly developed -- 100-year regional project flood.

Almost all of these areas have been mapped by DEC or the local subcontractors during the first year from the initial HUD flood hazard maps. DEC mapped the flood-prone areas along the Hudson River, while local subcontractors mapped the remainder of the coastal zones, with the exception of Chautauqua County and New York City, both of which should be mapped during the second year.

Area # 17 - Slopes of 15% or greater.

Area # 18 - Areas where geophysical conditions are not naturally suitable for general development: where bedrock or other impermeable material is within 3 feet or less of the existing ground surface; where soil is saturated with water within 3 feet of the surface for 2 to 12 months of the year.

Several subcontractors have mapped these areas during the first year. DEC did not do any of this mapping due to lack of time and personnel needed to interpret Soil Conservation Service county comprehensive soil surveys, the best source of information for mapping these areas. In addition, not all of the soil surveys for coastal zone counties have been completed. As noted in more detail in Section III, it is proposed that DEC and local subcontractors complete the mapping of above areas during the second year, using the soil surveys where available plus any previously developed local information.

Area # 19 - Special problem areas: shoreline erosion.

Mapping of these areas was completed during the first year by three of the local subcontractors, but without benefit of guidelines for mapping, DEC did not

undertake any of this mapping due to lack of personnel and the requirement for extensive field work. As noted in Section III, it is recommended that mapping of these areas be completed by other local subcontractors during the second year.

Area # 21 - Special problem areas: air pollution.

Mapping of these areas was not undertaken during the first year by either DEC or the local contractors since these areas were not originally proposed for mapping. However, as noted in Section III, the controls on the types of development permitted in Air Quality Maintenance Areas may have significant impact on the future uses of the coastal zone located in such areas. Mapping is, therefore, being recommended during the second year of the program for Air Quality Maintenance Areas.

Area # 22 - Special problem areas - water pollution.

With respect to water quality, DEC is preparing Basin Water Quality plans for the coastal zone areas of the State pursuant to Section 303(e) of the 1972 Federal Water Pollution Control Act (PL 92-500). These plans will identify each basin's water quality problems and solutions, encompassing a determination of existing water quality, applicable standards and significant point and non-point sources of pollution including effluent limitations, remedial solutions, priorities and abatement schedules.

Where problems of water pollution occur in coastal zone areas, plans developed under Section 303(e) and Section 208 (Areawide Waste Treatment Management Plans under PL 92-500 which will be developed for urban areas) may require controls on types and amounts of effluent discharges permitted, thus influencing the types and locations of development permitted. Such controls may, therefore, have significant impacts on the future uses of portions of the coastal zone and must be considered when permissible land and water uses for coastal zone areas are being defined.

Section III. Recommendations for second year mapping program.

As noted above in the discussion of the mapping and analysis of natural critical areas, a number of these areas could not be mapped by DEC and other subcontractors without undertaking field work for which neither time nor expertise were available. Lack of guidelines specifying criteria to be used for mapping the natural critical areas also contributed to this situation. It is imperative, therefore, that the second year of the CZM program be used by DEC and other subcontractors to undertake any necessary field studies, continue to develop criteria for mapping, etc. so that the Statewide mapping of GAPC's can be completed. To this end, DEC is recommending below, by each natural critical area, the steps that should be accomplished to complete this task.

DEC's emphasis in this process will be on the designation of areas of conservation, recreational, ecological or aesthetic values for the purpose of preserving and/or restoring them. Those types of areas appropriate for this designation are indicated. Detailed criteria for designating specific parcels within these areas must be developed. These areas will eventually be ranked in order of priority for preservation or restoration.

Area # 1 - Essential or productive wildlife habitats: littoral zone; shellfish beds; tidal and freshwater wetlands with associated upland buffer zones; embayments; estuaries; tributary streams; lakes and ponds used for spawning, nurseries, waterfowl nesting; fish and wildlife concentration areas.

Area # 2 - Special ecological areas: endangered or threatened wildlife species habitat.

Area # 3 - Urban open spaces suitable as wildlife habitat.

As noted in Section II above, DEC's Division of Fish and Wildlife undertook major

inventory activities under Tasks 7.1 and 7.3 during the first year CZM program. Because the inventory work was not completed during the first year, it is recommended that this work be continued during the second year with equivalent staff funding.

With respect to Task 7.1 -- Mapping and analysis of freshwater wetlands -- the above level of funding will permit completion of this task in 1976 for the State's entire coastal zone area. Inventory and identification of other significant and/or endangered fish and wildlife habitats under Task 7.3 will also be completed for all coastal zone areas.

Technical assessments (Task 7.4) for each category of significant areas identified in the Long Island and Hudson River coastlines will be prepared in 1976 which evaluate the ecological, aesthetic and/or recreational values of the area type. General kinds of permissible uses will be identified and recommendations for priority uses made as appropriate. More detailed assessments will be made within each category of specific areas considered exceptionally critical or productive. However, it will not be possible to complete these assessments for the Great Lakes - St. Lawrence Region until 1977.

Almost all of these areas being inventoried above fall into the category of areas for preservation and/or restoration and will be ranked according to their immediate need for preservation.

Area #4 - Special Ecological Areas: rare or endangered plant communities.

As noted above, very little was done by DEC and the other subcontractors to map these areas during the first year, primarily because extensive field studies by botanists would have been required. As a result, a DEC representative met with

several staff members from the Botany Survey of the New York State Museum and Science Service to investigate the possibility of studying on a Statewide basis the endangered vegetation of the Coastal Zone of New York. The Survey is very interested in undertaking such an investigation and has submitted a preliminary proposal "To Survey the Coastal Zone Management Area for Vascular Plants with Special Emphasis on Endangered Species and Habitats".

It is our opinion that the identification of rare and endangered plant communities to be included as areas designated for preservation under the CZM program is an extremely important task. As indicated in the proposal, the cost of the two-year project is substantial. Perhaps further discussion with the survey staff could result in a lower project cost without impairing the value of the project. In any case, it is recommended by DEC that serious consideration be given to having the Botany Survey undertake some work during the second and third year of the CZM program.

Area #5 - Flood-prone areas undeveloped or significantly undeveloped -- 100-year regional project flood.

Area #16 - Flood-prone areas developed or significantly developed -- 100-year regional project flood.

With almost all these areas having been mapped by DEC or local subcontractors in the first year CZM program, the only recommendation here is to ensure that any remaining areas are mapped by local subcontractors or by DEC where there are no subcontractors, as along much of the Hudson River shoreline.

Area #6 - Special biophysical areas: shoals, sand dunes, barrier beaches, bluffs and cliffs, swales.

Area #7 - Special physical features: gorges, waterfalls, unusual geologic formations.

With many of these areas not having been mapped by subcontractors in the first year CZM program, it is recommended that local subcontractors complete the mapping of these areas during the second year. Along the Hudson River shoreline, where there were only three subcontractors during the first year, it is recommended that DEC undertake the second year mapping for those areas not under the jurisdiction of any subcontractors and not mapped during the first year.

Many of these areas will have to be designated as areas for preservation. Standards and criteria for such designation have not yet been developed. It is recommended that high priority be given to such a task.

Area #8 - Areas of historic and archeological significance: Indian campsites; significant remains of earlier life forms.

Some of the subcontractors have mapped some of the above sites in the first year program. However, because the locations of most of these sites are on file with the Division of Historic Preservation (but not on 1:24,000 scale maps), it would be most convenient to have the locational information transferred to the proper maps in the Division's office by their own personnel. This would entail approximately one to two months' effort at a Draftsman-level position. After such mapping, it is suggested that the maps be circulated to appropriate subcontractors for verification and possible addition of areas scheduled for inventorying, but not yet on file, as well as areas noted in No. 4, above.

Needless to say, all of these areas fall into the category of areas designated for preservation and/or restoration.

Area #9 - Areas of scenic significance: natural scenic viewpoints and the foregrounds of such significant views of natural or essentially natural areas; scenic transportation corridors.

As noted in Section II above, the areas of scenic significance on the north shore of Long Island and the Westchester County shoreline have been recently inventoried and categorized as part of the Long Island Sound Study. Undertaken by Roy Mann Associates, Inc. and published under the title of "Shoreline Appearance and Design," the study developed a systematic assessment method in which established criteria for scenic values were employed.

Because the north shore has already been surveyed, it is recommended that the Nassau-Suffolk Regional Planning Board undertake, during the second year CZM program, a survey of the remainder of the Long Island shoreline, using the same methodology as employed on the north shore.

For the remainder of the state, it is recommended that local contractors undertake this task, using the same methodology as on Long Island.

Scenic areas fall in the category of areas to be designated for preservation. Once all scenic areas are inventoried, priorities for preservation would be established.

Area # 10 - Non-developed land and water areas acquired by the State or private interests for public non-intensive open space recreation uses, forest management, wildlife management, and natural area protection: State reforestation areas; wildlife management areas; multiple use areas: parks (with significant non-developed and natural open

space areas); State Nature and Historic Preserve Trust Areas; county, municipal and private forests; wildlife preserves; natural areas.

For those areas not mapped by local subcontractors during the first year, it is recommended that all mapping be completed in the second year. Where there are no local subcontractors, as along much of the Hudson River shoreline, it is recommended that DEC be given the responsibility for ensuring that mapping is completed for these areas during the second year.

Since these areas are already preserved or scheduled for preservation, as in the case of the State Nature and Historical Preserve Trust, the major concern will be to ensure that their preserved status is ensured for the future as part of the CZM management program.

While no State Nature and Historical Preserve Trust Areas have yet been acquired, areas located within the coastal zone which are proposed for acquisition will also be mapped during the second year.

Area #11 - Prime and Unique agricultural areas.

Section II above indicates that very little mapping of these areas was accomplished by subcontractors during the first year CZM program, primarily because such mapping was not specifically directed nor were guidelines available.

The State's farmlands were classified according to viability as the major part of a study published in 1969 by the State Office of Planning Coordination and entitled "The Nature and Distribution of Farming in New York State" by Howard E. Conklin

and Robert E. Linton, both of Cornell University. A map was prepared recording the location of present farms and their viability appraisals. Four viability classes were mapped: high, moderate, low and areas with no farms or widely scattered ones. High viability designates farms that appeared capable of supporting viable farm businesses throughout the foreseeable future. Moderate viability identifies farms near enough the economic margin to make their future somewhat uncertain. Low viability refers to farms judged to be obsolete for full-time use under modern farming conditions.

Appraisal of viability was based on a combination of factors, not just soil resources alone. Factors considered included: (1) topography, climate and water resources; (2) location, markets and access roads; (3) the level and condition of farm investments in real estate and non-real estate items; (4) the present and most probable levels of farming skills; (5) the feasibility and rates of adopting new technologies; (6) competition from substitute products and other regions, and local income alternatives; (7) patterns of farm ownership and operation; (8) levels of farm community morale, urban influence, and government policies affecting farming.

Many of the best farmlands in New York are part of Agricultural Districts, created as a result of passage in 1971 of the Agricultural Districts Law. Such a district must encompass a minimum of 500 acres of farmland. Three major provisions discourage encroachment on valuable farmlands: (1) restrictions on the rights of public agencies to acquire farmland by eminent domain; (2) stabilization of taxes on certain agricultural lands; (3) prohibitions against local ordinances which discriminate against farm practices.

In addition to the foregoing work which has been accomplished in classifying farmland and establishing Agricultural Districts, the Soil Conservation Service

(SCS) is currently undertaking a national program for inventorying prime and unique farmland based on interpretation of soil surveys using established criteria to define what constitutes both prime and unique areas. One hundred counties a year are being inventoried nationally. So far, three counties have been completed in New York, only one of which, Suffolk, is a coastal zone county.

With the availability of an SCS person at DEC during a portion of the second year, it is recommended that DEC undertake the inventory of prime farmland in the coastal zone for those areas not yet inventoried by local contractors. The inventory will be based on an interpretation of soil surveys. Also mapped will be high viability areas according to Conklin's study plus agricultural districts in the coastal zone.

Mapping of unique farmlands requires field work for which personnel at DEC are unavailable. Some unique farmlands will be included when Conklin's high viability areas and agricultural districts are mapped. However, it is recommended where feasible that local subcontractors undertake this task folowing the criteria developed by SCS.

Area #12 - Prime forest areas.

Some forest areas were mapped by CZM subcontractors in the first year. However, lack of guidelines for mapping prevented a uniform, complete effort from being accomplished. It is recommended that DEC complete this task during the second year according to guidelines to be developed in conjunction with DOS.

Area #13 - Prime aquifer and aquifer recharge areas.

Area #14 - Water supply lands: surface and groundwater sources.

With completion of the regional evaluation of water supply needs and problems of the coastal zone during the first year, as indicated in Section II above, it is recommended that the following additional tasks be carried on by DEC during the second year program:

1. Field Surveys: Interview local water system operators, planners and other local and regional representatives to get their opinions on the critical water supply areas in the coastal zone which need protection.
2. Review and Analysis: Evaluate the information collected in the field survey and other available information; update first year data.
3. Determine Areas to be Protected and Make Recommendations for CZM Program.
4. Delineate Areas on USGS Quad Sheets.
5. Final Task Report on Water Supply: Prepare final report (including illustrations).

Both of these areas fall into the category of areas to be designated for preservation and would be ranked in a priority listing for all such areas.

Area #15 - Valuable mineral resource areas: sand, gravel, natural gas, oil deposits, other valuable minerals.

Area #20 - Special problem areas: abandoned sand and gravel pits; other abandoned mineral resource operations.

As noted above in Section II, virtually no mapping of these areas was done by either DEC or the other subcontractors during the first year CZM program. With the availability of the SCS person at DEC during a portion of the second year,

it is recommended that these areas be mapped by DEC according to guidelines to be developed in cooperation with DOS.

Valuable mineral resource areas are areas to be designated for preservation and would be ranked in a priority listing for all such areas.

Area #17 - Slopes of 15% or greater.

Area #18 - Areas where geophysical conditions are not naturally suitable for general development: where bedrock or other impermeable material is within 3 feet or less of the existing ground surface; where soil is saturated with water within 3 feet of the surface for 2 to 12 months.

Section II above indicates that some of the local subcontractors have mapped these areas in the first year program, with some others planning to do the mapping in the second year. However, the availability of the SCS person at DEC will simplify this task by making it possible to complete the mapping of those areas not done in the first year. Therefore, it is recommended that DEC map these areas.

Area #19 - Special problem areas: shoreline erosion.

It is recommended that mapping of all shoreline erosion areas be completed by DEC and local subcontractors during the second year according to the guidelines to be promulgated.

Area #21 - Special problem areas: air pollution.

With respect to air quality, DEC has identified ten areas of the State that might

exceed, because of growth and development between 1975 and 1985, national air quality standards. These areas, called Air Quality Maintenance Areas, will be analyzed in detail as to projected growth and development for the 1975-1985 period to determine the impact on air quality. If the analysis of an area reveals the likelihood of any national air standards violation, plans will be formulated to provide steps that will ensure maintenance of the air standards. Those areas encompass significant stretches of the State's coastal zone. The plans referred to may place controls on the types of development permitted and may thus have significant impacts on the future uses of the coastal zone. Therefore, it is recommended that each local subcontractor map those coastal areas in its jurisdiction located in an Air Quality Maintenance Area.

Area #22 - Special problem areas: water pollution.

DEC will continue the preparation of Basin Water Quality plans for the coastal zone areas of the State. As noted in Section II, these plans will identify each basin's water quality problems as a basis for future controls on types and amounts of effluent discharges allowed and/or types and locations of development permitted.

MEMORANDUM

on

THE FRESHWATER WETLANDS INVENTORY
(Task 7.1)

Prepared by

New York State Department of Environmental Conservation
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Albany, New York 12233

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This report plus accompanying maps was prepared under the Coastal Zone Management Act of 1972 for the Division of State Planning, Department of State.

May 12, 1976

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FRESHWATER WETLANDS INVENTORY

Introduction

The following summary of the wetlands inventory being undertaken by DEC was prepared prior to enactment of the Freshwater Wetlands Act of 1975 and prior to the incorporation of the Coastal Zone Management Program into the inventory process through the infusion of considerable financial assistance. However, the explanation of the inventory remains valid.

The effect of the CZM program's involvement with the inventory (Task 7.1 of the 1st year CZM program) has been to alter the priorities for mapping and data interpretation. The goal is now to concentrate on completing all coastal zone county U.S.G.S. quads by the end of the second year of the CZM program. As of May 1, 1976 the U.S.G.S. quads listed following this summary have had transparent overlays prepared. The Data-Take-Off process, which essentially is responsible for producing items # 2, 3 and 4 under "Inventory Products" is just getting underway for the Tug Hill region, part of which contains several coastal zone counties.

Reasons for Concern Over the Preservation of Wetlands

Ecological transition zones such as wetlands are often of value to living things, because of the relatively easy availability of food and cover within a relatively limited area. Wetlands are especially productive of living things because needed nutrients, water and light are usually present in high quantities. Very few habitat types - even including intensively cultivated crop lands - can match the biological productivity of wetlands. This combination of conditions makes wetlands of unparalleled value as a habitat type for fish and wildlife.

Two-thirds of the marine fish and shellfish commercially harvested are said to depend upon the marsh-estuarine system of the tidal wetlands at some point in their life cycle. Many fresh water fish are similarly dependent. Wetlands provide the spawning ground for pike, pickerel and muskellunge. They are the nurseries for young largemouth bass, and are important throughout this species' life cycle. Sunfish, perch, bullheads, carp, minnows and other species use the wetland habitat.

No habitat type provides the variety, visibility, and density of wildlife that wetlands provide. Many species are directly dependent upon wetlands, while others are associated with wetlands to varying degrees. Over two dozen amphibians, including salamanders, frogs, and toads, are found in New York State. Some ten species of turtles in New York use wetlands. These include the endangered bog turtle which is found only in certain specialized wetland habitats. Several species of snakes are also dependent upon wetlands. Scores of water birds including loons, grebes, herons, rails, plovers, sandpipers and other shore birds, would not be found in New York in the absence of wetlands. Raptors are common in wetlands and three species - the bald eagle, the osprey and the peregrine falcon - which are rare or endangered are almost directly dependent upon wetlands. It hardly needs stating that without wetlands there would be no waterfowl. Less often realized is the dependence of most of the furbearers on wetlands. Muskrat, beaver, mink, and otter are directly dependent while raccoon and red fox are closely associated. Wetlands also provide critical winter cover for pheasants. Both big game species in New York State - the white-tailed deer and especially the black bear- are associated with wetlands to a degree often overlooked.

When these enormous fish and wildlife values of wetlands are compared to the relative rarity of wetlands in New York State (one to two percent of the state's

surface is wetlands) and to the vulnerability and fragility of wetlands (enormous losses of wetlands have occurred on Long Island, along the Hudson River, along the lake plains from Syracuse to Buffalo, and elsewhere), the reason for the Bureau of Wildlife and the Division of Fish and Wildlife's concern becomes obvious.

Reasons for the Wetlands Inventory

The Freshwater Wetlands Act calls for the study and mapping of freshwater wetlands throughout the State, a prime reason for continuing the inventory which actually began before passage of the act.

Fortunately, the wetland habitat type is highly amenable to a management program such as called for in the Wetlands Act or other legislation relating to land use, the environment, etc. (i.e., the Coastal Zone Act). "Management program" here is intended in its broadest sense, to include land use planning, environmental impact analysis, protective and other legislation, acquisition, education, land-owner contacts, cooperation with local planning, governing and environmental agencies, evaluation and measurement of changes, research, and habitat restoration, enhancement and manipulation practices. Such a program must have an adequate data base: an inventory of the wetlands of the State. An inventory of land resources such as wetlands is needed to plan land use. Detailed inventory information is needed to analyze environmental impacts. An inventory will guide the drawing up of protective legislation and regulations such as those to be formulated as part of a coastal zone management program. It will help to assure that wetlands acquisition is done in the most systematic and efficient way. It will aid enforcement. It will provide data needed for research. When repeated periodically it will measure changes in quality and quantity of wetlands and will identify critical problems.

Who is Doing the Inventory

The Bureau of Wildlife in the Division of Fish and Wildlife (New York State Department of Environmental Conservation) is the agency responsible for the inventory, with considerable financial assistance being provided by the Federally - funded coastal zone management program. The general design of the inventory is by the Bureau of Wildlife, with cooperation and participation in design and/or implementation by the following: in airphoto interpretation, which is the comprehensive and most systematic phase of the inventory, and the phase that will be most useful to other agencies, by the Resource Information Laboratory, Department of Natural Resources, New York State College of Agricultural and Life Sciences, Cornell University; in field data collection for the large wetlands, various agencies and especially the regional field staffs in the Department of Environmental Conservation; in soils interpretation (still in the planning stages), the Soil Conservation Service, U.S. Department of Agriculture.

Information Being Collected

All wetlands 1/5 hectare or larger are being mapped. Wetlands 2½ hectares and larger are being located according to a modified universal transverse mercator grid system, and being assigned to county, town, city or village. Association with a lake, watershed or estuary is being measured in both spring and summer. Perimeter measurements and measurements of length of contact with rivers, streams, lakes and land are being made. Beaver activity, surrounding land use, human influences, are a few, among other, types of information being recorded for all wetlands 2½ hectares and larger.

On still larger wetlands (approximately 20 hectares or more) additional information is being collected, including suitability for acquisition, soils interpretation,

vegetative classification, water alkalinity, known vegetation, fish and wildlife, and enhancement potential.

Inventory Products

1. Transparent overlays of U.S.G.S. 7½' topographic sheets on which wetlands 1/5 hectare or more will be mapped by cover type through airphoto interpretation.

2. An area-by-area paper file which will include airphoto, field, land use, and soils data. An airphoto data sheet is being prepared for each wetland 2½ hectares or larger. Other data will be incorporated for wetlands of larger size or higher priority.

3. A computer file in which much of the data in the paper file will be stored. All of the airphoto interpretation information and most of the other information will be in numerical form so that it can be stored in computer.

4. A summary, on a topo-sheet-by-topo sheet basis, of the areas under 2½ hectares. These wetlands will not have separate data sheets for each of them.

Quads Completed

As of May 1, 1976, the following U.S.G.S. quads for the coastal zone counties have had transparent overlays prepared on which wetlands 1/5 hectare or larger have been mapped by cover type (i.e. wet meadow, flooded deciduous trees, etc.). These sheets are available for reproduction.

Hudson River Coastal Zone Counties

Rennselaerville 1944	Cementon 1963	Claverack 1945-60
Durham 1943	Hudson South 1963	Napanoch 1942-56
Greenville 1945	Shandaken 1945-60	Canaan 1946-59
Prattsville 1945	Phoenicia 1945-60	Bearsville 1945

Ashland 1945
Hensonville 1945
Freehold 1945
Leeds 1953
Fleischmanns 1945
West Kill 1945-60
Lexington 1945-60
Hunter 1945
Kaaterskill 1943
Lawbeach 1945

Woodstock 1945
Willowemoc 1966
Claryville 1966
Peekamoose Mtn. 1943-69
West Shokan 1942-69
Ashokan 1964
Kingston West 1964
Kingston East 1963
Grahamsville 1966
Rondout Reservoir 1942-69

Arena 1945
Seager 1945
Hyde Park 1963
Woodridge 1966
Ellenville 1942-69
Gardiner 1942-57
Wurtsboro 1943-69
Kerhonkson 1942-69
Mohonk Lake 1964
Rosendale 1964

Eastern Lake Ontario Coastal Zone Counties (Oswego and Jefferson)

Central Square 1966
Sandy Creek 1958
Boylston Center 1953
Worth Center 1966
Rodman 1959
Barnes Corners 1959
Rutland Center 1959

Copenhagen 1942
Mallory 1957
Mexico 1956
Dugway 1957
Pulaski 1956
Richland 1958
Redfield 1960

Ellisburg 1958
Adams 1959
Sackets Harbor 1959
Watertown 1959
Carthage 1943
Deferiet 1949
Black River 1958

Other Lake Erie and Lake Ontario Coastal Zone Counties

All quads in Wayne and Ontario Counties are mapped.

MEMORANDUM

on

TIDAL WETLANDS INVENTORY
(Task 7.1)

Prepared by

New York State Department of Environmental Conservation
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May 12, 1976

Grant Number: 04-5-158-50002

TIDAL WETLANDS INVENTORY

Background

New York State undertook an inventory of its tidal wetlands after the 1973 State Legislature added a new article to the Environmental Conservation Law (Article 25), the Tidal Wetlands Act. The Act was effective September 1, 1973.

In acting to preserve the tidal wetlands, the State acknowledged the vital part wetlands play in the coastal ecosystem. Among the contributions of wetlands are the following:

Food Production - At some point in their life cycle, two-thirds of the commercially harvested fish and shellfish and two-thirds of sport fish depend on the marsh estuarine system of the tidal wetlands.

Wildlife Habitat - Tidal wetlands are essential breeding, nesting, and feeding grounds for many forms of wildlife, waterfowl and shore birds.

Flood and Storm Control - The hydrologic water absorption and storage capacity of wetlands minimize erosion and flooding damage. Wetlands serve as a natural buffers protecting upland and developed areas from storm tides and waves.

Recreation - Wetlands provide hundreds of square miles for hunting, fishing, boating, hiking, birdwatching, photography and camping. Wetlands comprise a large part of the remaining natural and unspoiled areas along the crowded coastal reaches of the State and provide unique open space and esthetic qualities.

Natural Waste Disposal - Wetlands are valuable and irreplaceable biological and chemical oxidation basins in which organic runoff and organic pollution are oxidized, metabolized and converted into useful nutrients. Wetlands are essential settling and filtering basins absorbing silt and organic matter

which otherwise would obstruct channels and harbors to the detriment of navigation.

Education and Research - Wetlands afford a wide range of opportunity for scientific research and outdoor laboratories and serve as a living educational classroom.

Economic Benefits - Wetlands also provide direct economic benefits. For example, Great South Bay alone creates direct economic benefits of an estimated $152,000,000 per year from sale of clams, boats, marine equipment, and fishing equipment.

The State's basic policy in the Act was to preserve this valuable resource and allow for the maximum use of the remaining wetlands along New York's coastline. In order to effectuate this policy, the Act provided for an inventory showing the location, extent, and categories of tidal wetlands so that effective planning for their protection could begin. The need for the inventory and protection of wetlands was apparent from the fact that in the past twenty years, more than 12,000 acres of Long Island wetlands were lost to bulkheading, dredging, filling, dumping, excavating, and similar operations. Continued losses on this scale would soon have resulted in the disappearance of much of the remaining wetlands.

Performance of the Inventory

The Department elected to obtain the services of a private contractor to conduct the inventory. Earth Satellite Corporation was awarded the contract. Mark Hurd, Aerial Surveys, Earth Sat's subcontractor, was responsible for aerial photo acquisition and base map production.

The principal tasks involved in implementing the inventory were the following: acquisition of aerial photography (color infra-red transparencies) for New York City, all of Long Island, and parts of Westchester and Rockland Counties; preparation of photobase maps through enlargement and rectification of the aerial photographs; delineation of wetland boundaries and categories on the photobase maps through analysis of aerial photographs and field verification; acquisition

of property ownership information from examination of tax maps, and notification of owners of lands delineated as within the wetlands; public hearings to allow review of the maps by affected landowners; revision of maps as necessary from the comments at the public hearings; and preparation of final map products.

The aerial photographs were acquired by Mark Hurd, Aerial Surveys, and were designed to serve as: (a) a photobase upon which the wetland boundaries would be displayed, and (b) the primary information source for the identification and delineation of the tidal wetlands.

The photographs were analyzed by natural scientists from the staff of Earth Satellite Corporation. These scientists have extensive experience in the application of aerial photographs to wetland identification and mapping. Wetland categories identified on the photography were delineated on the photobase maps and labeled with appropriate symbols.

Following the initial wetland delineation, owners of property mapped as tidal wetlands were identified from review of county and municipal tax records. The Department will notify owners of record that their land has been mapped as wetland as required by the Act. Property owners are given the opportunity to examine the wetland maps and review the placement of the boundary lines at a public hearing. Final map products are prepared and filed with the appropriate Department of Conservation Regional Office subsequent to the public hearings and will be used as a primary information source in implementing the permanent rules and regulations formulated to protect and preserve the State's coastal resources.

The Area Inventoried

The area to be covered by the New York Tidal Wetland Inventory was determined by DEC to be those wetlands which receive regular and identifiable tidal flows, excepting those areas identified as being formerly connected tidal wetlands. This

includes all of Long Island and the neighboring islands off the eastern tip, Staten Island, Manhattan Island, the mainland of Westchester County along the northwestern shore of the Long Island Sound, and that portion of the Hudson River lying within the State of New York as far north as the Tappan Zee Bridge. The project area includes the counties of Suffolk, Nassau, Westchester, Rockland, Kings, Queens, Richmond, New York and the Bronx.

Information Being Collected

All tidal wetlands inventoried were categorized as follows based on vegetative cover and/or tidal flow: intertidal marsh, high marsh in salt meadow, coastal fresh marsh, coastal shoals, bars and mudflats, formerly connected tidal wetlands and a littoral zone.

The minimum required mapping of a category within a wetland was five acres.

Inventory Products

(1) Color IR photography of the inventory area

(2) A reproducable screened Cronaflex photo base map which is a composite of the image photo base and inked on wetland delineations at a scale of 1" =200'

(3) A plasticized photographic print of the above Cronaflex

(4) Lists of landowners of wetlands

As of this writing, all but 35 maps of a subsequent order have been received. With this exception, the entire inventory has been completed.

INTERIM REPORT

on

Areas of Particular Concern to the Preservation and Maintenance of Fish and Wildlife Populations in the Coastal Zone of Long Island

(Task 7.3)

Prepared By

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AREAS OF PARTICULAR CONCERN TO THE PRESERVATION AND MAINTENANCE OF FISH AND WILDLIFE POPULATIONS IN THE COASTAL ZONE OF LONG ISLAND

May 1976

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For the north shore

from Little Neck Bay to Cold Spring Harbor

Barbara Connelly	member, Lyman Langdon Audubon Society
Ralph Cioffy	" " " " "
Henry Dam	past constable, town of Huntington
Otto Heck	instructor, Trenton State College
Dr. Robert Johnson	professor, Hofstra College
Dr. Barbara Spencer	member, Lyman Langdon Audubon Society

from Cold Spring Harbor to Nissequoque River

Henry Dam	
Dr. Robert Johnson	
James Romansky	member, Great South Bay Audubon Society, Biology tea
Sally Ruppert	member, Huntington Audubon Society

from Nissequoque River to Wading River and Peconic River

James Romansky	
Gilbert Raynor	member, committee for natural resources; consultants to L.I. Chapter of Nature Conservancy
Dennis Puleston	member, committee for natural resources; consultants to L.I. Chapter of Nature Conservancy

from Wading River to Plum Island, Great Gull Island

Aline Dove	member, committee for natural resources; consultants to L.I. Chapter of Nature Conservancy
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Gilbert Raynor	member, committee for natural resources; consultants to L.I. Chapter of Nature Conservancy
Paul Stoutenburgh	member, committee for natural resources; consultants to L.I. Chapter of Nature Conservancy

Shelter Island, Gardiner's Island

Dennis Puleston
Gilbert Raynor

For the south fork

Christopher McKeever	member, Moriches Bay Audubon Society
Leroy Wilcox	member, Moriches Bay Audubon Society

For the South shore

Art Cooley	member, committee for Natural Resources; consultants to L.I. Chapter of Nature Conservancy
Darrell Ford	member, Great South Bay Audubon Society, bird bander
Dennis Puleston	

Dr. Paul Buckley, Naturalist, reviewed and contributed information for the entire island.

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Appreciation is also expressed to Mr. George Spinner for the loan of the original shellfish maps he used to produce his atlas of marine and coastal resources.

Special thanks to Anthony S. Taormina for the encouragement and guidance which actually got this project "off the ground".

While I acknowledge and express my appreciation to all who contributed to this project, I claim sole responsibility for any errors which may have occurred in the delineation of the mapped information.

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AREAS OF PARTICULAR CONCERN TO THE PRESERVATION
AND MAINTENANCE OF FISH AND WILDLIFE POPULATIONS
IN THE COASTAL ZONE OF LONG ISLAND

Part I - Terrestrial Wildlife, Avifauna and Shellfish

This report details on 1:24000 scale U.S.G.S. Maps, geographic areas important to wildlife populations on Long Island, New York. The initial object has been broadened in some cases to include not only habitats of coastal species but also of animals peripheral to the salt water-land interface and normally considered upland species. This broadening of the objective is justified by the unique character of Long Island. Many parts of the island and its associated waters manifest the interaction of ocean and glacial moraine. Unusual communities of rare plants and animals and uncommon land forms are the products of this interaction.

Habitats of coastal and coastally associated species are mapped in discrete units of known usage. Upland and some freshwater habitats are mapped as extensive tracts. The smaller, discreet units must be considered inviolable to insure the integrity of their resource value. Where possible, these areas should be afforded the protection of a buffer zone. The extensive tracts are also termed "prime wildlife area" (P.W.A) but most of these could endure some carefully planned, very limited development. These larger tracts are valuable habitat for deer, ruffed grouse, and various other species, some of which are specific to the unique vegetative associations or topography in which they are found. Planned development of such areas should be based on an ecological inventory of each area, should be designed to direct construction away from especially significant segments and should also limit the amount of development to assure sufficient unbroken range to maintain viable populations of the species whose presence we wish to preserve. A third and special type of P.W.A. is found in urban areas. These include urban open spaces suitable as wildlife habitat and certain ponds and streams and their shorelands which support large numbers of wintering waterfowl.

The term P.W.A. must be understood to signify nothing more than a "red flag" to alert the planner that this area is of importance to Wildlife. Such diverse and unlikely spots as farmer's fields, golf courses and city park ponds have been labeled P.W.A. as well as the most outstanding and productive natural habitats on Long Island.

Methods

Information was gathered from the following reports: Wildlife Census - Final Report Huntington Audubon Society, A Report on Maple Swamp - Birch Creek, Suffolk Cty. L.I.N.Y. prepared by the Committee on Natural Resources (consultants to the Long Island Nature Conservancy), Shellfish maps loaned by George Spinner and a progress report on waterfowl habitat and use from Fire Island Inlet to Montauk Point, prepared by the U.S. Fish and Wildlife Service. But most of the material came from personal communication with interested and knowledgeable individuals. I asked these persons to indicate

on the U.S.G.S 7½ minute quadrangles all areas they felt were of particular concern to fish and wildlife in the coastal zone. The problem of defining the "coastal zone" was left open to facilitate collection of information which if of only peripheral interest to C.Z.M. might be important to other D.E.C. programs. The areas addressed by each individual are listed in acknowledgements.

The maps were folded into quarters and reduced to fit on 8½" x 11" paper. Numbered areas are described in the key facing each map. The presence both frequent and occassional of species within an area is noted by the organisms common name under the column "resource of concern" in the key. If a species presence was "freakish" or unusual, this fact is noted. Known habitat relationships are described e.g. "feeding area for heron" "Rupia maritima attracts and holds Blacks" "tern rookery", etc.

Prime Wildlife Areas were labeled P.W.A. in accord with the mapping specifications and guidelines received from the office of planning, research, and development. I used the abbreviation Br. A. to indicate rookerys, nest, and den sites. Shellfish areas were labeled S.F. in accord with O.P.D.P.R. mapping specifications. To facilitate preparation of overlays P.W.A. areas were shaded yellow on the original quadrangle sheets.

Categories of Compatible Use

Because no fixed importance can be attached to areas labeled P.W.A., uses to which they may be put without degrading their wildlife value will vary. But rather than try to prescribe uses for each area, I categorized potential uses into four types according to the degree of preservation needed to conserve the values of each natural area. An alternative approach, categorization by existing land use or resource type was rejected because it would not permit attention to each area within a resource type. The categories presented here identify the range of modifications to present land uses which will not adversely alter existing wildlife habitat. Management practices are to be specified by the appropriate New York State Department of Environmental Conservation regional office in conjunction with habitat specialists from the central office and such outside consultants as the department may require for proper accessment of each resource area.

Category 1 - Excepting specified management practices no modifications to vegetation, water quality or physiography are permitted. Management practices shall be limited to continuance of specific seral stages or a species group. Management may oriented to maintain within the biome, a particular species of plant or animal but may not cultivate that species for consumptive use.

Access shall be restricted commensurate with protection of the resource qualities of the area. Such facilities as necessary for management shall be located off-site.

Category 2 - Same as one, but where appropriate, structures and pathways may be permitted to facilitate limited regulated non-consumptive use of the resource area. Hunting, fishing primitive camping and other extensive uses may also be established on a permit system to control the density of recreationists afield each day.

Category 3 - Excepting specified management practices, no modifications to vegetation, water quality or physiography are permitted. Management may be oriented to production of:

1. specific plants or animals for commercial or recreational harvest.
2. recreational opportunities of minimal environmental impact such as hiking, sailing, primitive camping (backpacking), hunting, fishing.

Category 4 - Limited development based on critical habitat factors and an open space conservation plan is permissible. Water quality shall not be degraded past Class C or CT* if oxygen sensitive organisms such as trout are present. Preferred development would be intensive recreation areas for picnicing, etc. but some areas may withstand limited residential, commercial or industrial development.

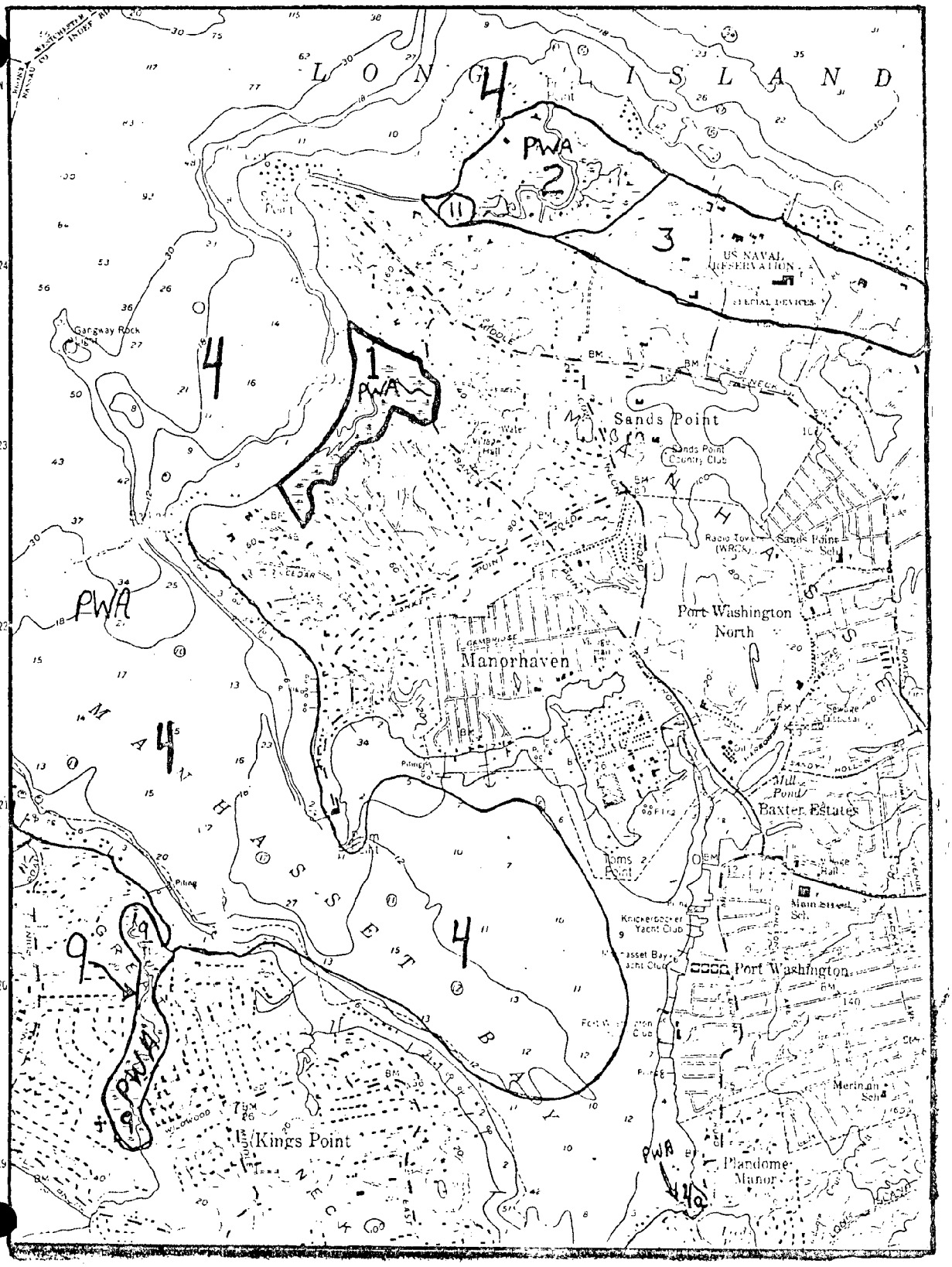
The two constraints on development of category four areas shall be preservation of critical habitats factors and sufficient unbroken range to maintain viable populations of the species complex whose presence we wish to preserve. Critical habitat factors are those elements of the range which provide a resource base unobtainable in other parts of the same range or which constitute "limiting factors" (Leopold 1933:38).

* Section 701.4 Classes and Standards for fresh surface waters (Environmental Conservation Law Article 17)

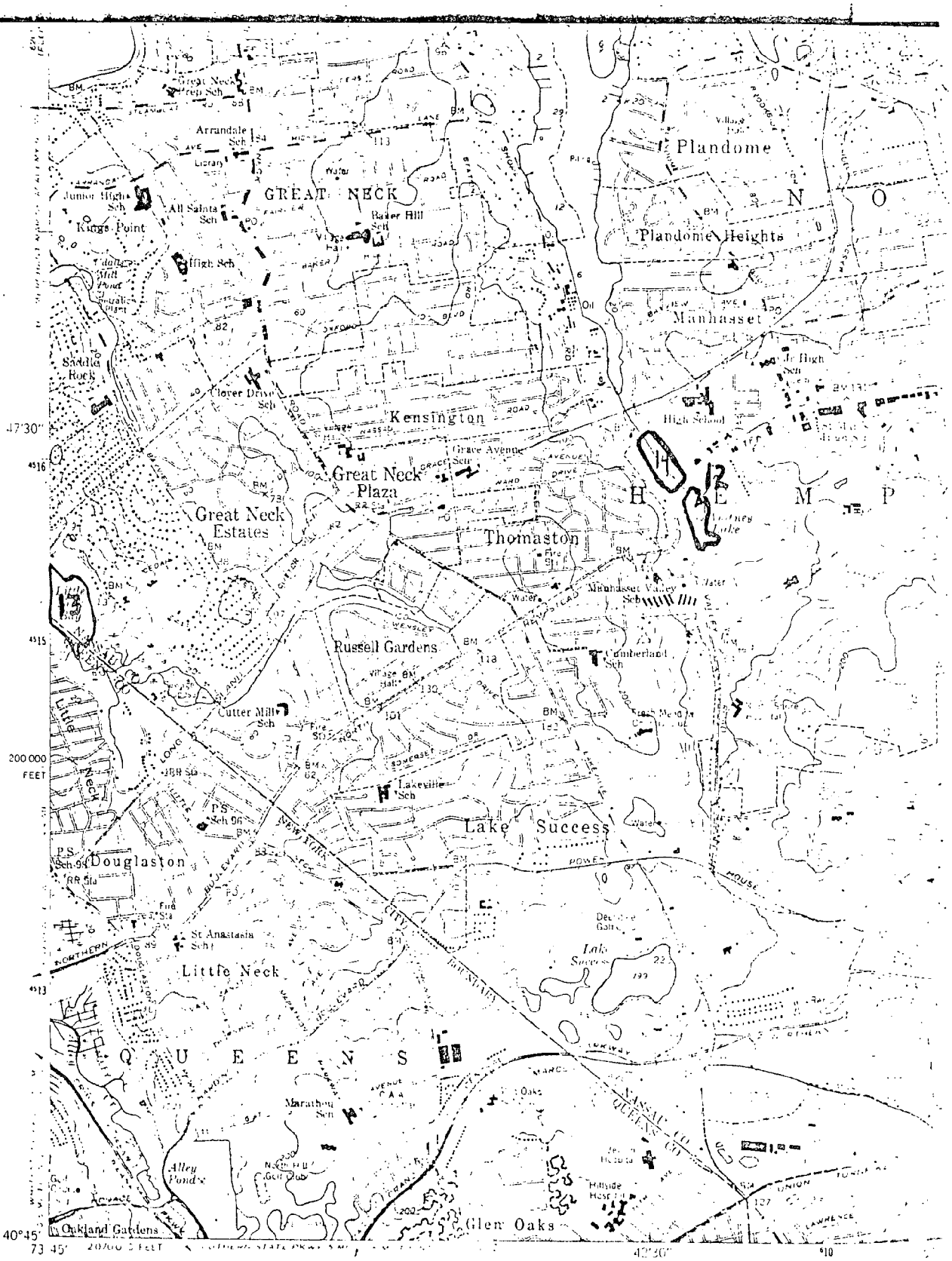
THE FOLLOWING PAGES ARE SAMPLED FROM THE COMPLETE REPORT

NOTE: THE REPORT IS BEING PRINTED BACK TO BACK SO THAT APPROPRIATE MAPS AND KEYS FACE ONE ANOTHER

QUAD	Sea Cliff	SECTION 1
Area	Use Category	Resource(s) of Concern
1	2	one of three remaining marshes of any consequence
		in the whole area. "Chief value is that it still
		remains" (Dr. R. Johnson, Hofstra University)
		Goldeneye and Scaup concentrate in winter just
		off shore
2	2	productive marsh, dunes with Cactus- Goldeneye
		concentrate in winter just off shore
3	3	Acadian Flycatcher has been seen here, is a
		Great Horned Owl territory
4	3	Wintering SeaDuck area
4a	2	marsh, 200 dabbling duck in area in winter
11	2	Williams Flycatcher has been seen here
9	2	nature preserve with marsh, Urban open space


LONG ISLAND
PWA
2
3
4
1
PWA
US NAVAL RESERVATION
SPECIAL DEVICES
Gangway Rock
Sands Point
Sands Point Country Club
Radio Tower (WRCA)
Sands Point Sch
Port Washington North
Manorhaven
Mill Pond
Baxter Estates
Toms Point
Knickerbocker Yacht Club
Port Washington
Kings Point
Plandome Manor
PWA
4a
PWA
4
4
9
9
PWA
9

QUAD	Sea Cliff	SECTION 3
Area	Use Category	Resource(s) of Concern
13	3	20,000 Scaup & Redheads in winter
12	3	pond important to winter waterfowl
14	2	nesting Canada Goose Urban Open Space



Mapped by the Army Map Service
Edited and published by the Geological Survey

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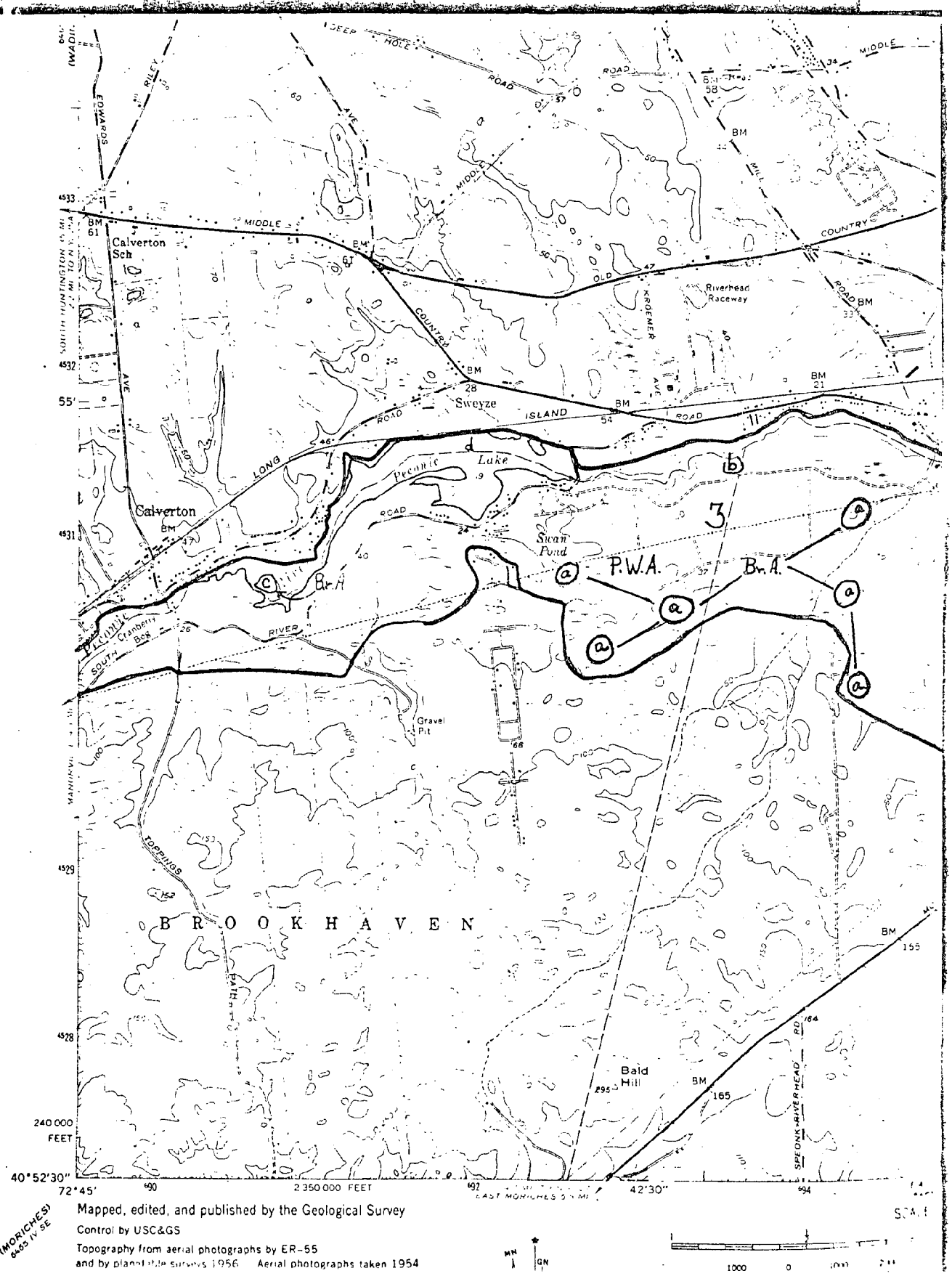
QUAD	Riverhead	SECTION 3
Area	Use Category	Resource(s) of Concern
3	3	Wet woods with kettle holes along Peconic River
3a	2	kettleholes are habitat for locally endangered Tiger and Spotted Salamanders
3b	2	nest site of least bittern
3c	2	nest site of Prothonotary Warbler
3d	3	Bass & Bluegill fishing in Peconic "lake"



Mapped, edited, and published by the Geological Survey

Control by USC&GS

Topography from aerial photographs by ER-55
and by plane table surveys 1956 Aerial photographs taken 1954

(MORICHES) 6465 IV SE

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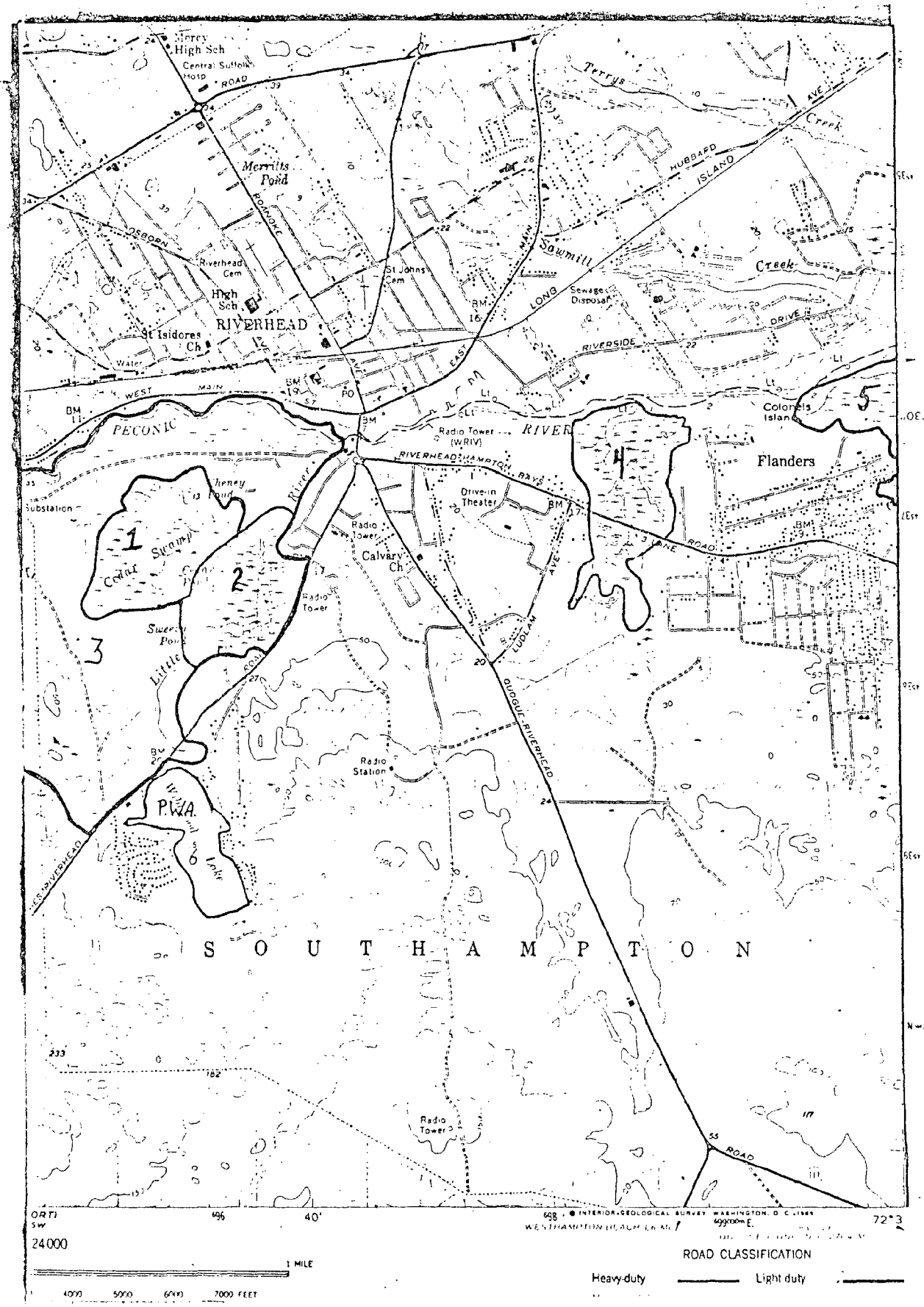
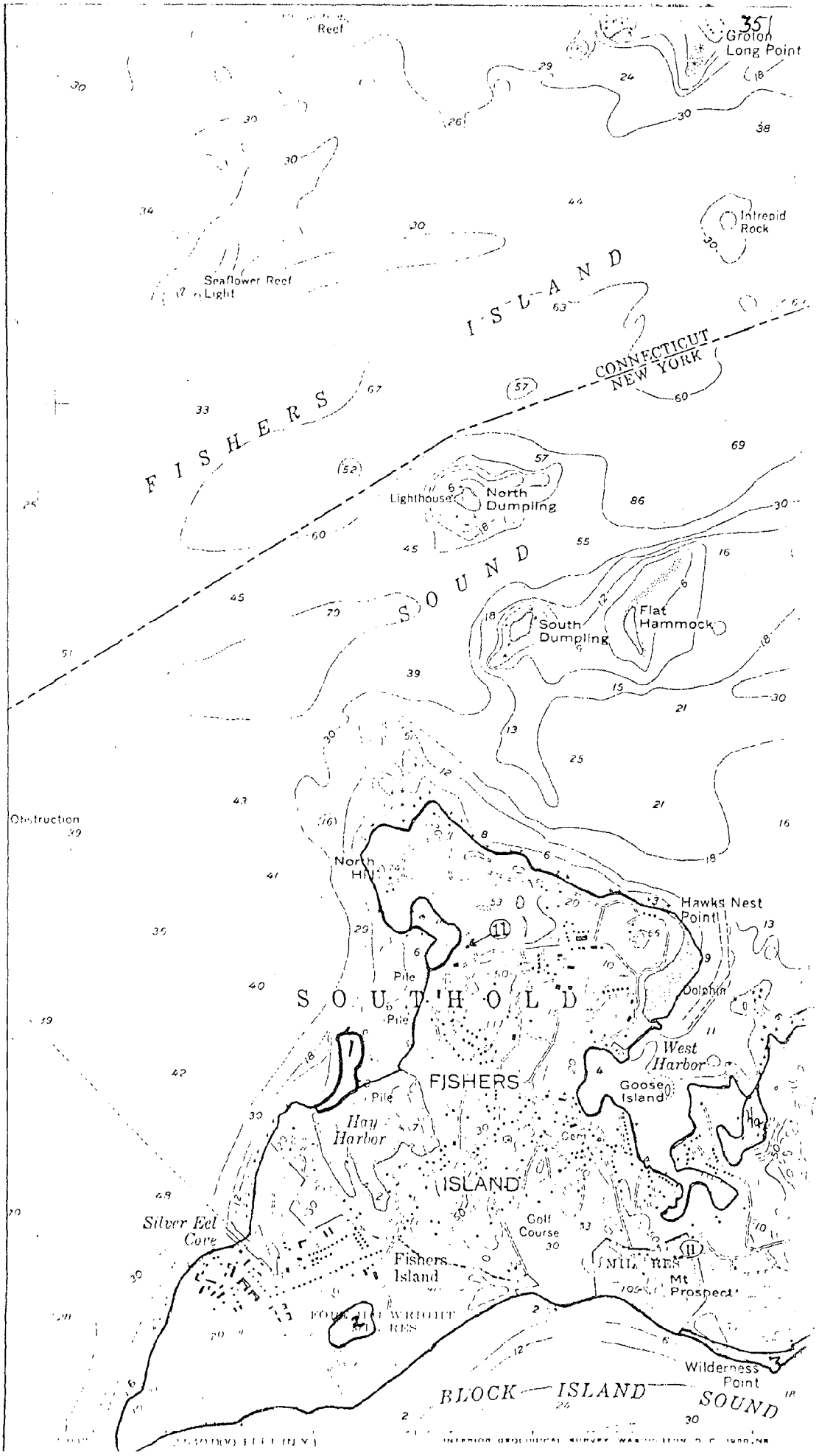
QUAD Riverhead SECTION 4

Area	Use Category	Resource(s) of Concern
1	2	White Cedar Swamp - Southern White Cedar rare and local on Long Island, other rare plants are present in area
2	2	Cranberry Bog nature Preserve - diverse and unusual plant community rich fauna including mollusks, fish turtles and amphibians. Rare insects include moths, dragonflies and caddis flies. Locally rare salamanders present
3	3	Wet woods with kettle holes harbor Ruffed Grouse, Woodcock, Great Horned Owl and other woodland species
4	2	Typical L.I. marsh supporting variety of Flora & Fauna
5	2	same as 4
6	3	Wildwood Lake wintering waterfowl, fishing Trout pond


Mercy High Sch
Central Suffolk Hosp
ROAD
Merritts Pond
ROANOKE
OSBORN
Riverhead Cem
High Sch
St Isidores Ch
RIVERHEAD
St Johns Cem
Terrys
Creek
HUBBARD
ISLAND
AVE
MAIN
Sawmill
Creek
LONG
Sewage Disposal
DRIVE
RIVERSIDE
EAST
WEST
MAIN
ST
PECONIC
RIVER
Radio Tower (WRIV)
RIVERHEAD-HAMPTON BAYS
Colonels Island
Flanders
Drive-in Theater
Cheney Pond
Substation
Cedar Swamp
Radio Tower
Calvary Ch
LANE
ROAD
Sweezy Pond
Little
ROAD
LUDLAM
AVE
QUOGUE-RIVERHEAD
Radio Station
P.W.A.
Lake
S O U T H A M P T O N
Radio Tower
ROAD
ORTI
SW
696
40'
698
INTERIOR-GEOLOGICAL SURVEY WASHINGTON, D. C.
72°3
24000
1 MILE
4000 5000 6000 7000 FEET
ROAD CLASSIFICATION
Heavy-duty
Light duty

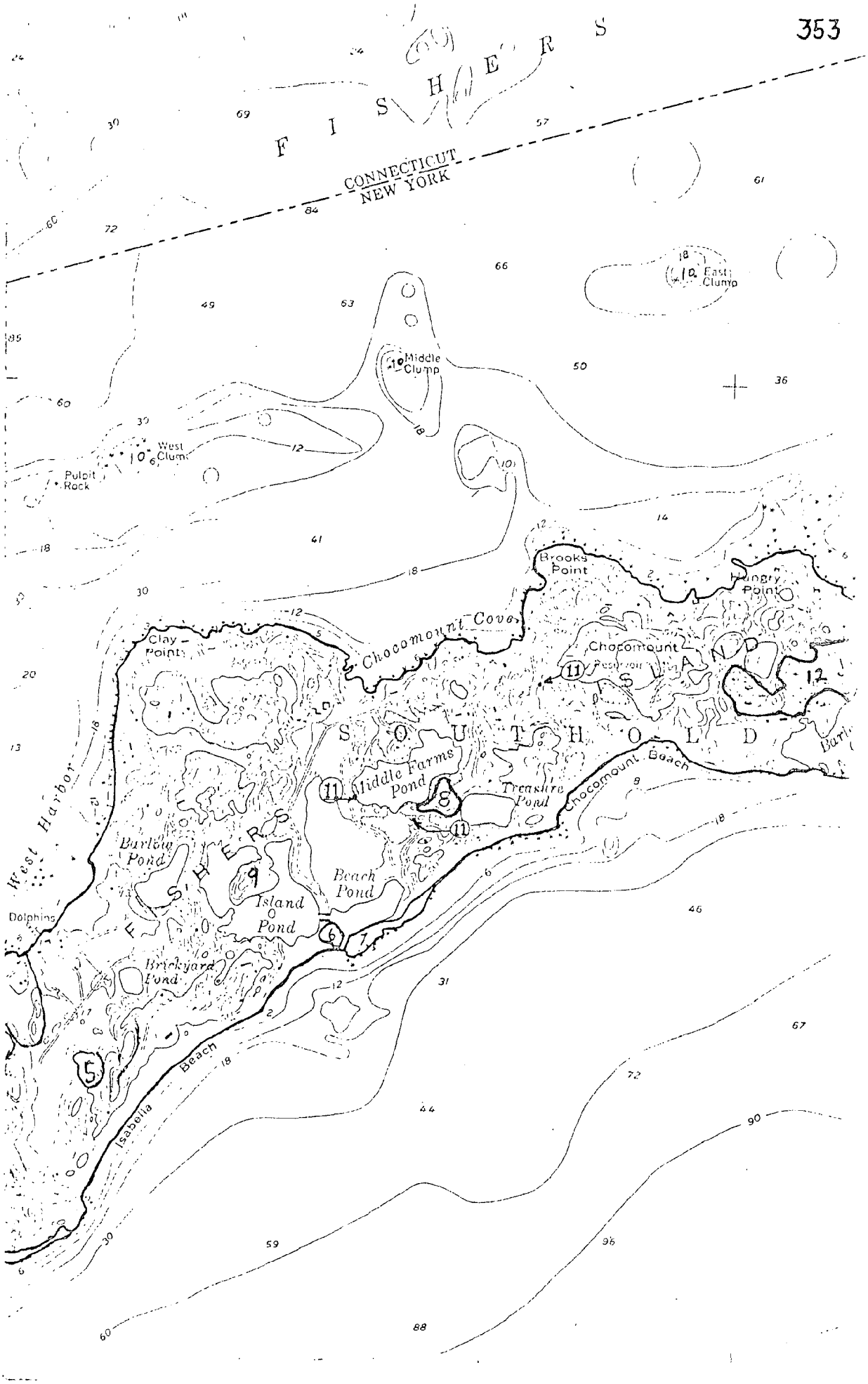
350

QUAD	Fisher's Island	SECTION 1
Area	Use Category	Resource(s) of Concern
1		tern rookery (common terns) piping plover also nest
2		Grasshopper Sparrow, Marsh Wren
3		nesting Piping Plover
4		Yellow Crowned Night Heron nest
4a		Feeding area for Yellow Cr. Night Heron
11		Osprey nests


Reef
Groton Long Point
Intrepid Rock
Seaflower Reef Light
FISHERS ISLAND
CONNECTICUT
NEW YORK
Lighthouse
North Dumpling
SOUND
South Dumpling
Flat Hammock
Obstruction
North Hill
Hawks Nest Point
Pile
SOUTHOLD
Dolphin
West Harbor
FISHERS
Goose Island
Hay Harbor
ISLAND
Silver Eel Cove
Golf Course
Fishers Island
MILL RES
Mt Prospect
Wilderness Point
BLOCK ISLAND SOUND

QUAD Fisher's Island SECTION 2

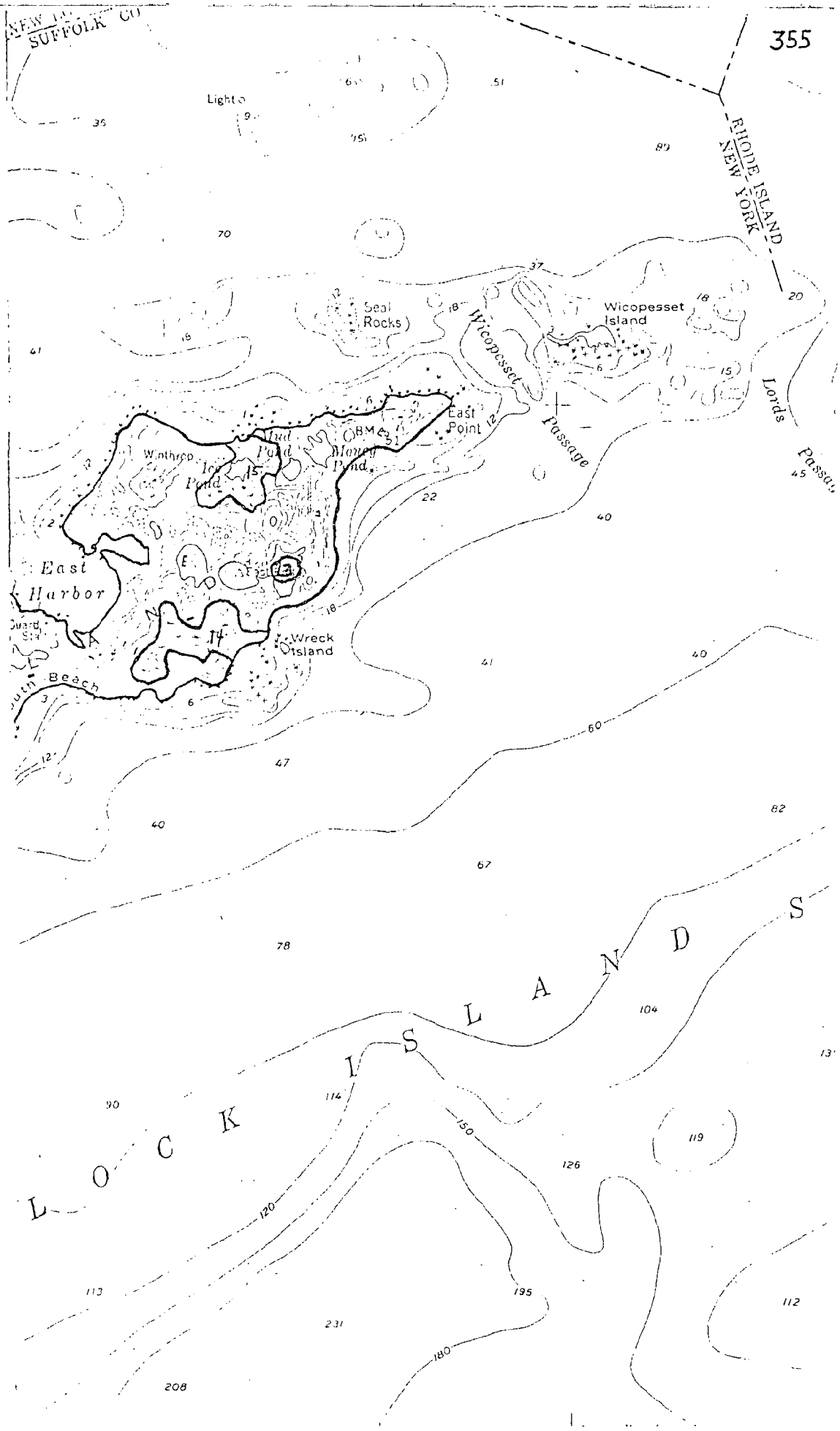
Area	Use Category	Resource(s) of Concern
5	1	Yellow Crown Night Heron nest site
6	1	Tern rookery (common terns)
7	2	nesting Piping Plover
8		site of now inactive heron rookery
9	2	nesting: Black Ducks, Muskrat & Woodcock
10	2	Harbor Seals use "clumps" in winter
11	1	Osprey nests
12	2	Barleyfield preserve pond, Barleyfield pond, Barleyfield cove
		nesting American Bittern, Mute Swan, (becoming pest)
		Gadwall, occassional Blue Wing Teal, Canada Goose
		feeding and loafing area for a host of waterfowl
		species during migration as are all ponds on Fisher's Island


FISHERS
CONNECTICUT
NEW YORK
East Clump
Middle Clump
West Clump
Pulpit Rock
Brooks Point
Hungry Point
Chocomount Cove
Clay Point
Chocomount Reservoir
SOUTHOLD
Middle Farms Pond
Treasure Pond
Chocomount Beach
West Harbor
Barlow Pond
Island Pond
Beach Pond
Dolphins
Brickyard Pond
Isabella Beach

QUAD: Fisher's Island

SECTION: 3

Area	Use Category	Resource(s) of Concern
13	1	Active Heronry.
14	2-3	same as 15
15	2-3	Feeding area for Little Blue Heron, American Egret Green Heron, Green Winged Teal, Lesser Yellowlegs, during migration, Least Sandpiper, Stilt Sandpiper


SUFFOLK CO
Light
RHODE ISLAND
NEW YORK
Seal Rocks
Wicopesset Island
Wicopesset Passage
Lords Passage
East Point
Winthrop
Ice Pond
Mud Pond
Money Pond
East Harbor
Wreck Island
Beach
LOCK ISLANDS

Part II Areas of Particular Concern to Long Island Fisheries

Methods

Fisheries information was gleaned from publications by Freeman and Walford (1974), (1974a), Dickinson (1938), Lobell (1938), Neville et. al. (1938), Briggs (1965), (1965a), (1968), (1969), (1975), (1975a), Briggs and O'Connor (1971), Briggs and Zawacki (1974). Jensen (1974), Poole (1962), (1966) and Schaefer (1967). But much information was obtained by personal communication with Philip T. Driggs and David Green in the N.Y.S.D.E.C. Region One Office. The map was reproduced from a road map which was modified by blotting out with correction fluid, unwanted information. Fisheries information was sketched in from composites of the information presented in the various reports. The "fishing grounds" were copied directly from Freeman and Walford (1974), (1974a).

Discussion

I believe all salt and brackish waters of Long Island as well the freshwater streams flowing into these waters should be designated as "prime" wildlife (fisheries) habitat. Fish are seasonal and their abundance and location varies from year to year. There are well known "hot" spots and traditional fishing grounds where fish seem to aggregate but to label these as the "prime" areas would do injustice to other waters, some of which are not popular only because of limited access. Also, by singling out these waters one risks loss of much valuable habitat by directing attention to only the "prime" of the "prime".

Fisheries of importance and traditional fishing grounds

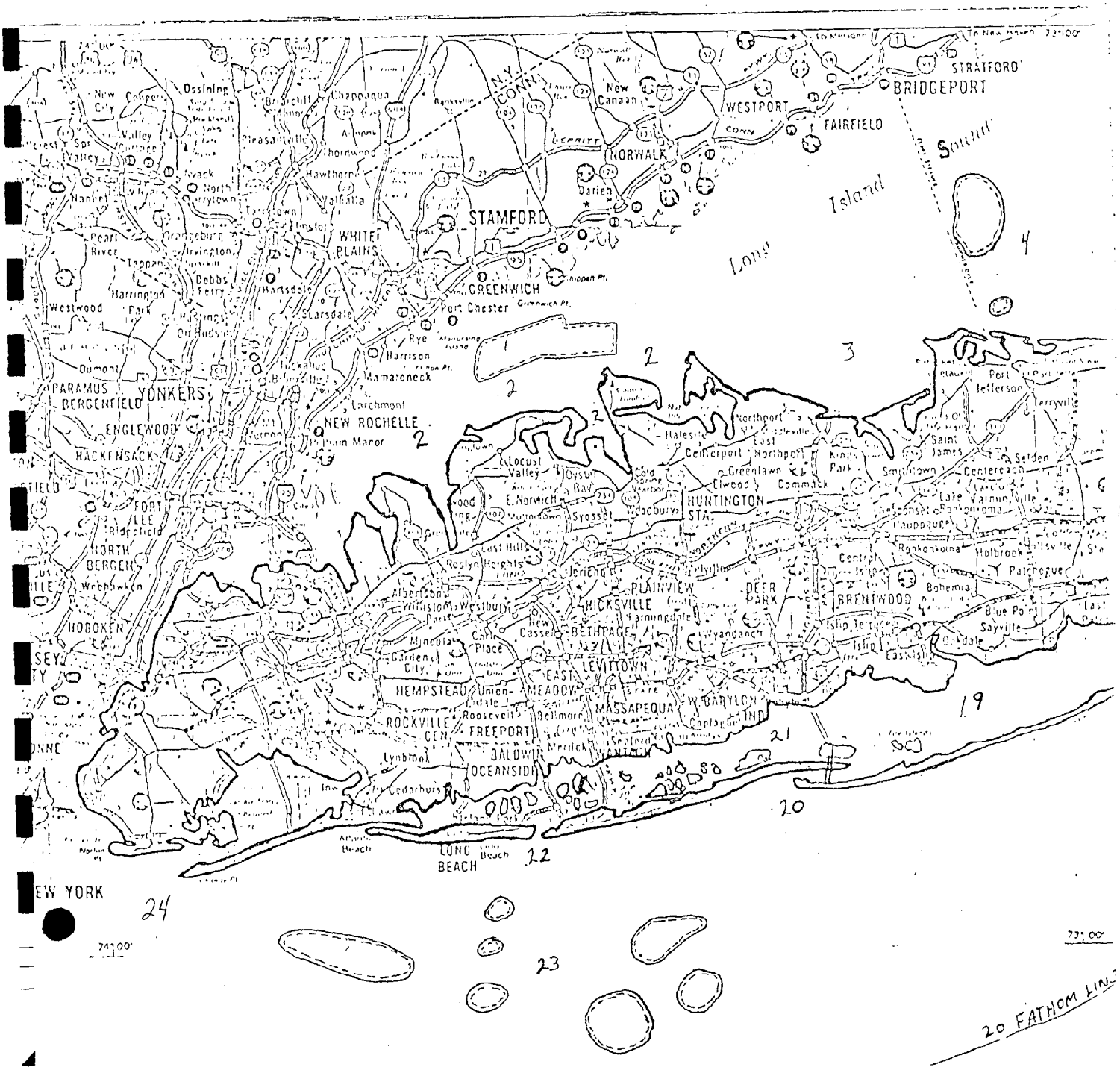
In the vicinity of Long Island, New York

1. Lobster area
2. Winter Flounder, Striped Bass, Tautog, Bluefish
3. Winter Flounder, Tautog, Mackerel, Striped Bass, Bluefish
4. Winter Flounder, Porgy, Tautog, Black Seabass, Striped Bass, Bluefish
5. Tautog, Striped Bass, Bluefish
5a. Striped Bass, Fluke
6. Striped Bass, Tautog Bluefish, Pollack
7. Porgy, Winter Flounder, King Fish
7a. "Snapper" Blues
8. Weakfish
8a. Weakfish, Bluefish, Tautog
9. Tautog, Striped Bass
9a. Porgy, Winter Flounder
10. Porgy, Seabass, Winter Flounder
11. Tautog, Striped Bass, Cod, Pollack, Bluefish, Winter Flounder, Porgy
12. Pollack, Atlantic Bonito, Silver Hake, Cod, Mackerel, Squirrel Hake, Winter Flounder
13. Pollack, Squirrel Hake, Silver Hake, Mackerel, Blue Shark, White Marlin, Swordfish
14. Winter Flounder
15. Bluefish, Striped Bass, Porgy, Weakfish
16. Winter Flounder, Fluke
17. Striped Bass
18. Eel, Winter Flounder, Fluke, Weakfish
19. Seabass, Winter Flounder, Bluefish
20. Fluke, Striped Bass
21 Bluefish
22. Kingfish, Striped Bass, Bluefish, Porgy, Little Tuna, Cod, Atlantic Bonito
23. Tautog, Atlantic Bonito, Bluefish, Little Tuna
24. Striped Bass, Bluefish, Porgy, Tautog, Squirrel Hake, Silver Hake, Cod, Mackerel, Bluefin Tuna

(========== Indicates boundry of traditional fishing grounds - areas long favored by fisherman for their consistant productivity)

Fisheries of importance and traditional fishing grounds

In the vicinity of Long Island, New York

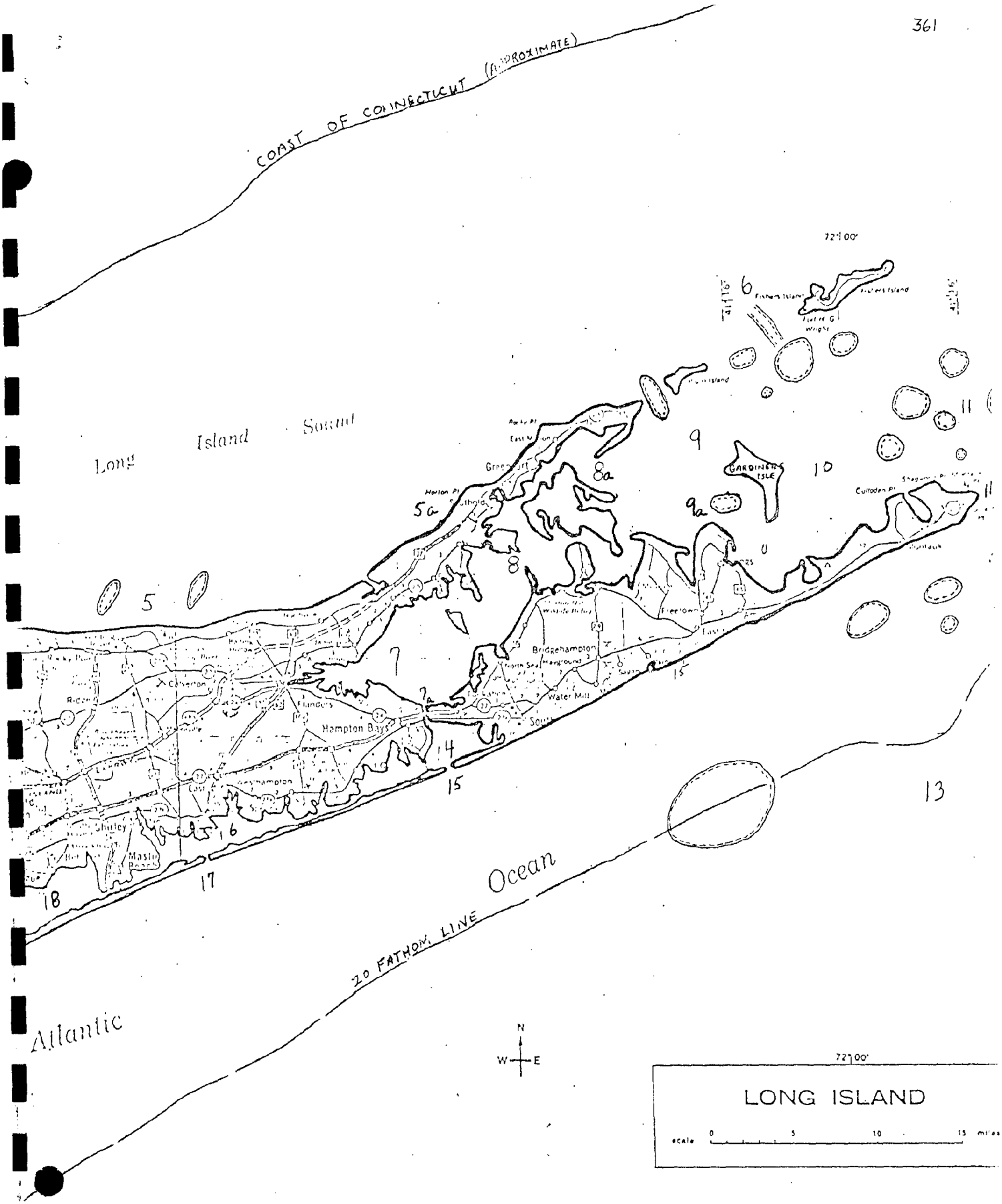


Fisheries of importance and traditional fishing grounds

In the vicinity of Long Island, New York

1. Lobster area
2. Winter Flounder, Striped Bass, Tautog, Bluefish
3. Winter Flounder, Tautog, Mackerel, Striped Bass, Bluefish
4. Winter Flounder, Porgy, Tautog, Black Seabass, Striped Bass, Bluefish
5. Tautog, Striped Bass, Bluefish
5a. Striped Bass, Fluke
6. Striped Bass, Tautog Bluefish, Pollack
7. Porgy, Winter Flounder, King Fish
7a. "Snapper" Blues
8. Weakfish
8a. Weakfish, Bluefish, Tautog
9. Tautog, Striped Bass
9a. Porgy, Winter Flounder
10. Porgy, Seabass, Winter Flounder
11. Tautog, Striped Bass, Cod, Pollack, Bluefish, Winter Flounder, Porgy
12. Pollack, Atlantic Bonito, Silver Hake, Cod, Mackerel, Squirrel Hake, Winter Flounder
13. Pollack, Squirrel Hake, Silver Hake, Mackerel, Blue Shark, White Marlin, Swordfish
14. Winter Flounder
15. Bluefish, Striped Bass, Porgy, Weakfish
16. Winter Flounder, Fluke
17. Striped Bass
18. Eel, Winter Flounder, Fluke, Weakfish
19. Seabass, Winter Flounder, Bluefish
20. Fluke, Striped Bass
21 Bluefish
22. Kingfish, Striped Bass, Bluefish, Porgy, Little Tuna, Cod, Atlantic Bonito
23. Tautog, Atlantic Bonito, Bluefish, Little Tuna
24. Striped Bass, Bluefish, Porgy, Tautog, Squirrel Hake, Silver Hake, Cod, Mackerel, Bluefin Tuna

(~~~~~~~~~~ Indicates boundry of traditional fishing grounds - area long favored by fisherman for their consistant productivity)

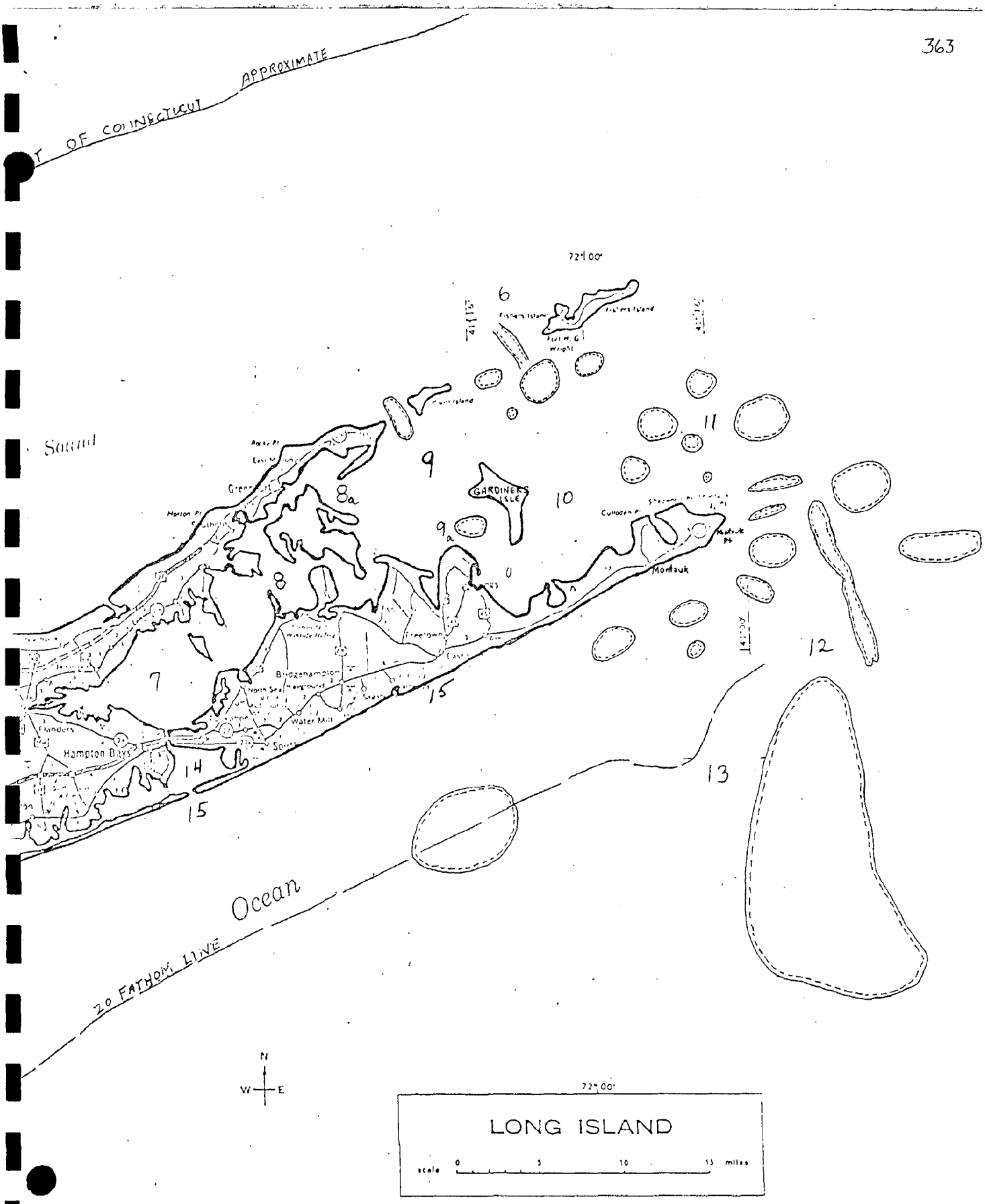

COAST OF CONNECTICUT (APPROXIMATE)
Long Island Sound
Atlantic Ocean
20 FATHOM LINE
72°00'
Fishers Island
Gardiners Isle
Bridgehampton
Hampton Bays
Flanders
Calverton
Shirley
Mastic Beach
Water Mill
Freetown
Culloden Pt
Horton Pt
Greenport
Southold
5
5a
6
7
7a
8
8a
9
9a
10
11
13
14
15
16
17
18
N
W
E
LONG ISLAND
scale 0 5 10 15 miles

Fisheries of importance and traditional fishing grounds

In the vicinity of Long Island, New York

1. Lobster area
2. Winter Flounder, Striped Bass, Tautog, Bluefish
3. Winter Flounder, Tautog, Mackerel, Striped Bass, Bluefish
4. Winter Flounder, Porgy, Tautog, Black Seabass, Striped Bass, Bluefish
5. Tautog, Striped Bass, Bluefish
5a. Striped Bass, Fluke
6. Striped Bass, Tautog Bluefish, Pollack
7. Porgy, Winter Flounder, King Fish
7a. "Snapper" Blues
8. Weakfish
8a. Weakfish, Bluefish, Tautog
9. Tautog, Striped Bass
9a. Porgy, Winter Flounder
10. Porgy, Seabass, Winter Flounder
11. Tautog, Striped Bass, Cod, Pollack, Bluefish, Winter Flounder, Porgy
12. Pollack, Atlantic Bonito, Silver Hake, Cod, Mackerel, Squirrel Hake, Winter Flounder
13. Pollack, Squirrel Hake, Silver Hake, Mackerel, Blue Shark, White Marlin, Swordfish
14. Winter Flounder
15. Bluefish, Striped Bass, Porgy, Weakfish
16. Winter Flounder, Fluke
17. Striped Bass
18. Eel, Winter Flounder, Fluke, Weakfish
19. Seabass, Winter Flounder, Bluefish
20. Fluke, Striped Bass
21 Bluefish
22. Kingfish, Striped Bass, Bluefish, Porgy, Little Tuna, Cod, Atlantic Bonito
23. Tautog, Atlantic Bonito, Bluefish, Little Tuna
24. Striped Bass, Bluefish, Porgy, Tautog, Squirrel Hake, Silver Hake, Cod, Mackerel, Bluefin Tuna

(---------- Indicates boundry of traditional fishing grounds - areas long favored by fisherman for their consistant productivity)


T OF CONNECTICUT APPROXIMATE
Sound
GARDINERS ISLE
Montauk
Bridgehampton
Water Mill
Hampton Bays
Ocean
20 FATHOM LINE
N
W
E
LONG ISLAND
scale 0 5 10 15 miles

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	Sayville		
	Bayshore West		
	Jones Inlet		
	Lynbrook		
	Lawrence		
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	Bayville	5	35
	Jones Inlet	Great South Bay	265,267
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* indicates nesting

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* indicates nesting

Resource	Quad	Area	Page
Wintering Eagle(s)	Bay Shore E.	11	303
	Central Islip	Connetquot St. Park/	299
Large Owls	Napeague Beach	1	229
	Southampton	15	163
	Southold	10	153
	Wading River	4,5	101
	Pattersquash Is.	1	349
	Bellport	8,11	331
	St. James	1a,b	81
	Central Islip	in Connetquot State Pk./	299
	Bay Shore E.	3,5	303
	Bay Shore W.	5	291
	Lloyd Harbor	11	51
	Amityville	2	279
	West Gilge Beach	Jones Beach	281,283
	Bayville	3	33
	Jones Inlet	3a	267
	Mamaroneck	1	19
	Flushing	3,4	7

RESOURCE	QUAD	AREA	PAGE
Herons, Egrets, Ibises, Bitterns	Gardiners E	2*	219
	Plum Island	3*	199
	Orient	6,8*	177,179
	Gardiners W	3,9*	205,209
	East Hampton	3	211
	Greenport	8,10,12,1a,1b,2	181,183,187
	Sag Harbor	6,11	193
	Southampton	2	157
	Mattituck	5,6	133,135
	Quoque	Quantuck Creek	133,135
	Pattersguash	3	349
	Bellport	10	331
	Port Jefferson	1,2*a	85,87
	Sayville	5a*	317
	St. James	1a,2a*	81,83
	Bay Shore E	6	303
	Northport	2,3,6	65
	Bay Shore W	9, 6 (6 is outstanding)	287,291
	Lloyd Harbor	2,9,11	45,49,51
	Huntington	2c,3c	53
	West Gilgo Beach	2*	281
	Bayville	1	33
	Jones Inlet	all marshes this quad	265,267
	Lynbrook	lawrence marshes	243,245
	Lawrence	1,2*,3*	249,251
	Mamaroneck	3	19
	Mamaroneck	4	19

RESOURCE	QUAD	AREA	PAGE
Terns & Skimmers nest areas	Gardiners E	15,16,19	
	Plum Island	2	201
	Gardiners W	1,6	205,207
	Greenport	3	183
	Southold	1,5,7	151,155
	Southampton	1	157
	Shinnecock Inlet	1,3,7	165
	Quoque	5,9	143
	East Port	several non breeding species over winter on Barrier Beach	121,123
	Moriches	1	347
	Pattersquash	2,3	349
	Howells Point	1	335
	Port Jefferson	3	85
	St. James	3,4	81,83
	Northport	2b,5	65
	Bay Shore W	3b,6a	289,291
	Lloyd Harbour	3,1,10,12,13	45,47,51
	Amityville	2	279
	West Gilgo Beach	3	281
* new nesting practice	Jones Inlet	marshes,* spoil islands	263,265
	Gardiners E	15,16	223
	Gardiners E	19	225
Shorebirds excluding purple sandpiper (which may be found on rock jetties at: Montauk, Shinnecock, Moriches, Jones Inlet	Gardiners E.	15	223
	Orient	7, 11*, 14	179
	Gardiners W.	6,8,3	205,207,209
	East Hampton	3,6	211,213
	Greenport	2	183
	Sag Harbour	2a, 4, 5, 6	191,193,195
	Southold	11	153
	Southamption	4b	157
	Shinnecock Bay	6, 9	165
	Mattituck Hills	2	131
	Mattituck	1, 5b, 6	133,135,137
	Quogue	1, 2a*	141
	Eastport	on Barrier Beach, 4/	121,123
	Moriches	2	347
	Port Jefferson	2d	87
	Bay Shore E.	4	303
	Bay Shore W.	4, Oyster catchers on B.Beach/	289
	Lloyd Harbor	3	45
	Amityville	1	277
	West Gilgo Beach	1, barrier beach	281

Resource	Quad	Area	Page
Muskrat	Orient	10	179
	St. James	1	81
	Northport	3	
	Huntington	36	53
	Bayville	5	35
Mink	St. James	1	81
	Lloyd Harbor	2	45
	Huntington	3b	53
	Bayville	5	35
Weasels	Wading River	8	103
	St. James	1a	81
	Huntington	3	53
	Bayville	5	35

Resource	Quad	Area	Page
Salamanders	Gardiners Is. E.	10	219
	Greenport	15	181, 185
	Southold	2	151
	Riverhead	3a	113, 115
	Mattituck	2	137
	Bellport	1	327
	Port Jefferson	4	87
Unusual Snakes	Flushing	9	4
Unusual Toads or Frogs			
Turtles, Terrapin	Greenport	186	6 (Bog Turtle)
Unusual or rare and locally rare plants	Greenport	long beach	183
	Flushing	3a	5
	Flushing	2	11
	Napeague Beach	1a	229
	Bay Shore West	5	291

Interim Report on

SIGNIFICANT FISH & WILDLIFE HABITATS:

Hudson River-New York City to Troy

(Being Revised)

MEMORANDUM

on

WILD AND SCENIC RIVERS PROGRAM
(Task 7.3)

Prepared by

New York State Department of Environmental Conservation
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May 12, 1976

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Wild and Scenic Rivers Program

Establishment of a State Wild, Scenic and Recreational Rivers System in 1972 was significant for the Coastal Zone Management Program. This system, making it possible to preserve and protect the outstanding natural, scenic, historic ecological and recreational values of selected free flowing rivers and their immediate surroundings, could eventually include several rivers within the to-be-designated boundaries of the coastal zone. The system will, therefore, be an excellent implementing mechanism for ensuring the preservation and protection of certain areas of geographic concern in the coastal zone needed for the maintenance of water quality, fragile ecosystems, aesthetic and historic values and opportunities for carefully balanced recreational uses.

Under the law, Wild Rivers are to be free of diversions and impoundments, inaccessible to the general public except by water, foot or horse trail; their immediate environs primitive and undeveloped, with development limited to forest management and foot bridges. Wild Rivers are to have a minimum length of five miles in any one section. It is expected that very few river areas outside the Adirondack Park will meet the overall remoteness criteria for consideration in the Wild River class.

Scenic Rivers are to be free of diversions and impoundments except for log dams, with limited road access and with river areas largely primitive and largely undeveloped or which are partially or predominantly used for agriculture, forest management and other dispersed human activities. A minimum length of five miles, or in combination with a recreational or wild river, in any one section is being recommended by the Department of Environmental Conservation.

Recreational Rivers are to be easily accessible by road or railroad, may have development in their river area and may have undergone some impoundment or diversion in the past. A minimum length of five miles, or in combination with a scenic or wild river, in any one section is being recommended by the Department of Environmental Conservation.

The Coastal Zone counties include two rivers designated as scenic and recreational and now included in the System-the Connetquot River (recreational) and the Carmans River (3 sections scenic, 2 sections recreational), both in Suffolk County. Five miles of the Connetquot River, in the Connetquot River State Park, are designated, while nine and one half miles of the Carmans River are included. Another three-quarter mile section of the Connetquot adjoining the Park section is under consideration for addition to the system. Also in Suffolk County, sections of the Nissequogue and Peconic Rivers are being considered for possible study, which could lead to their eventually being included in the system.

Three other coastal zone counties - Albany, Greene, and Ulster - contain rivers for which studies have been completed or are currently underway. Both Esopus and Black Creeks in Ulster County have had studies completed which recommend their inclusion in the system by the Legislature and Governor. These river studies will be receiving public review to determine the feasibility of designation. A preliminary study of Catskill Creek in Albany and Greene Counties has been completed and the creek may be mandated for further study by the Legislature and Governor, leading to possible designation in the System. Other rivers for which studies are underway include the following: Batavia Kill, East Kill, Schoharie Creek, and West Kill all in Greene County, and the Neversink River and Rondout Creek in Ulster County.

Preliminary studies have been done on a number of streams in DEC Region 6, which includes the Great Lakes Coastal Zone counties of Jefferson and St. Lawrence, to determine their elegibility for possible inclusion in the System. Further study will be needed to determine if there are stream reaches eligible for designation in either or both of these two counties.

The implementation of a detailed management program for each designated river will include the establishment of detailed boundaries and promulgation of formal rules and regulations (both State and local) for the management of lands and water resources. It is the intent of the DEC that where local governments demonstrate the ability and willingness to meet minimum management standards, the Department's use of its legislatively authorized powers to exercise land use controls in such river areas be minimized. The key to local land use controls in designated river areas, therefore, will be local/State cooperation and action through appropriate management devices such as local codes, zoning and landowner agreements.

Whichever combination of management devices is selected for a particular designated river within the coastal zone boundary will have significance for the CZM program since the river constitutes an area designated for preservation and/or restoration. It would be appropriate to consider, in such areas, the coordination and/or integration of these management devices with the eventual land use regulations and other required devices in the implementation of a coastal zone management program.

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