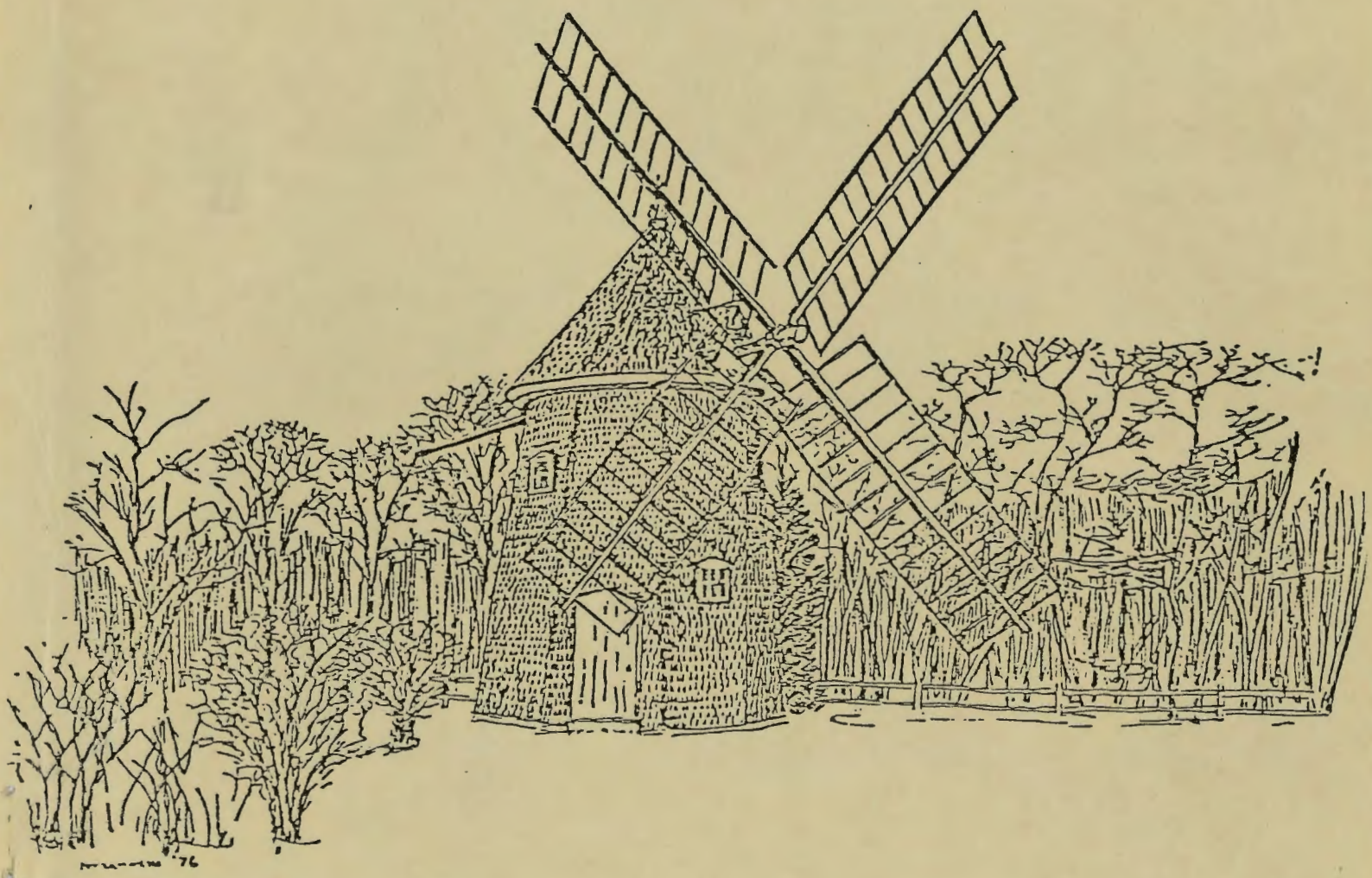
96-AB-1

CAPE COD 1976

WATER QUALITY & WASTEWATER DISCHARGE DATA



massachusetts department of environmental quality engineering

DIVISION OF WATER POLLUTION CONTROL

thomas c. mcmahon, director

CAPE COD DRAINAGE WATER QUALITY AND WASTEWATER

DISCHARGE SURVEY DATA, 1975, 1976

PREPARED BY
WATER QUALITY AND RESEARCH SECTION
DIVISION OF WATER POLLUTION CONTROL
DEPARTMENT OF ENVIRONMENTAL QUALITY ENGINEERING

WESTBOROUGH
SEPTEMBER 1977

Cover

Oldest Wooden Windmill in The United States
Located off Route 6A in Eastham, Massachusetts

PUBLICATION: # 15023-143-20-9-87-C.R.
APPROVED BY: State Purchasing Agent

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PART A: WATER QUALITY DATA

INTRODUCTION

This report is a tabulation of analysed data from samples of the waters surrounding Cape Cod. Due to the quantity of samples taken, the survey period totaled three weeks during the summer of 1976. All surveys were coordinated and conducted by personnel from the Massachusetts Division of Water Pollution Control.

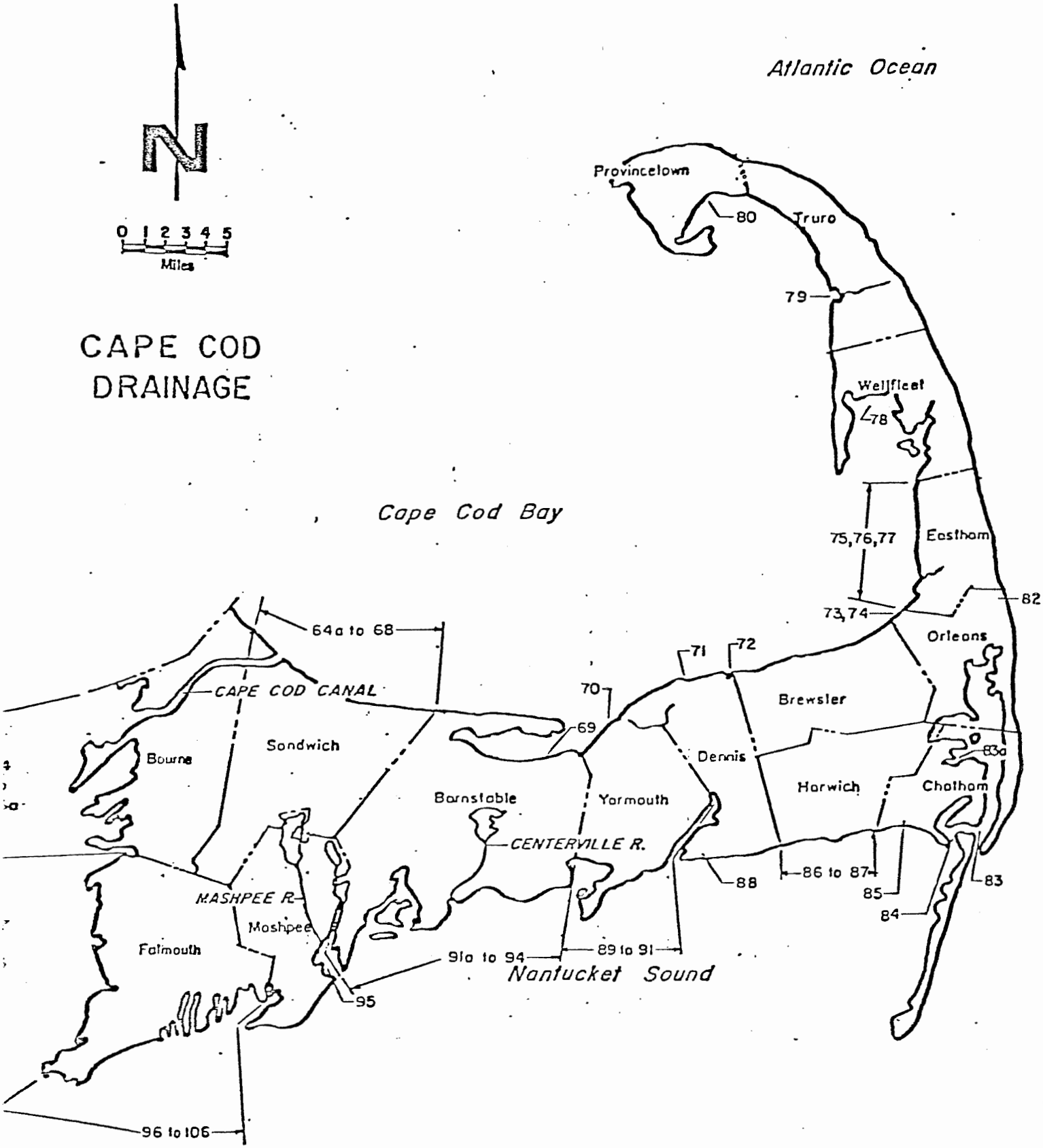
The first survey period (June 8 - 10) consisted of sampling the waters from the Cape Cod Canal easterly entrance, through Buzzards Bay and ending in the Falmouth Inner Harbor. Weather conditions were clear, sunny and hot with the absence of precipitation during this period.

July 19 - 22 consisted of sampling the Falmouth Inner Harbor a second time and continuing eastward to Stage Harbor. A portion of Cape Cod Bay beginning in Sandwich Harbor easterly to Quivett Creek in Dennis. Weather conditions were clear and sunny on July 19 and 20. Rain predominated the weather for the 21st.

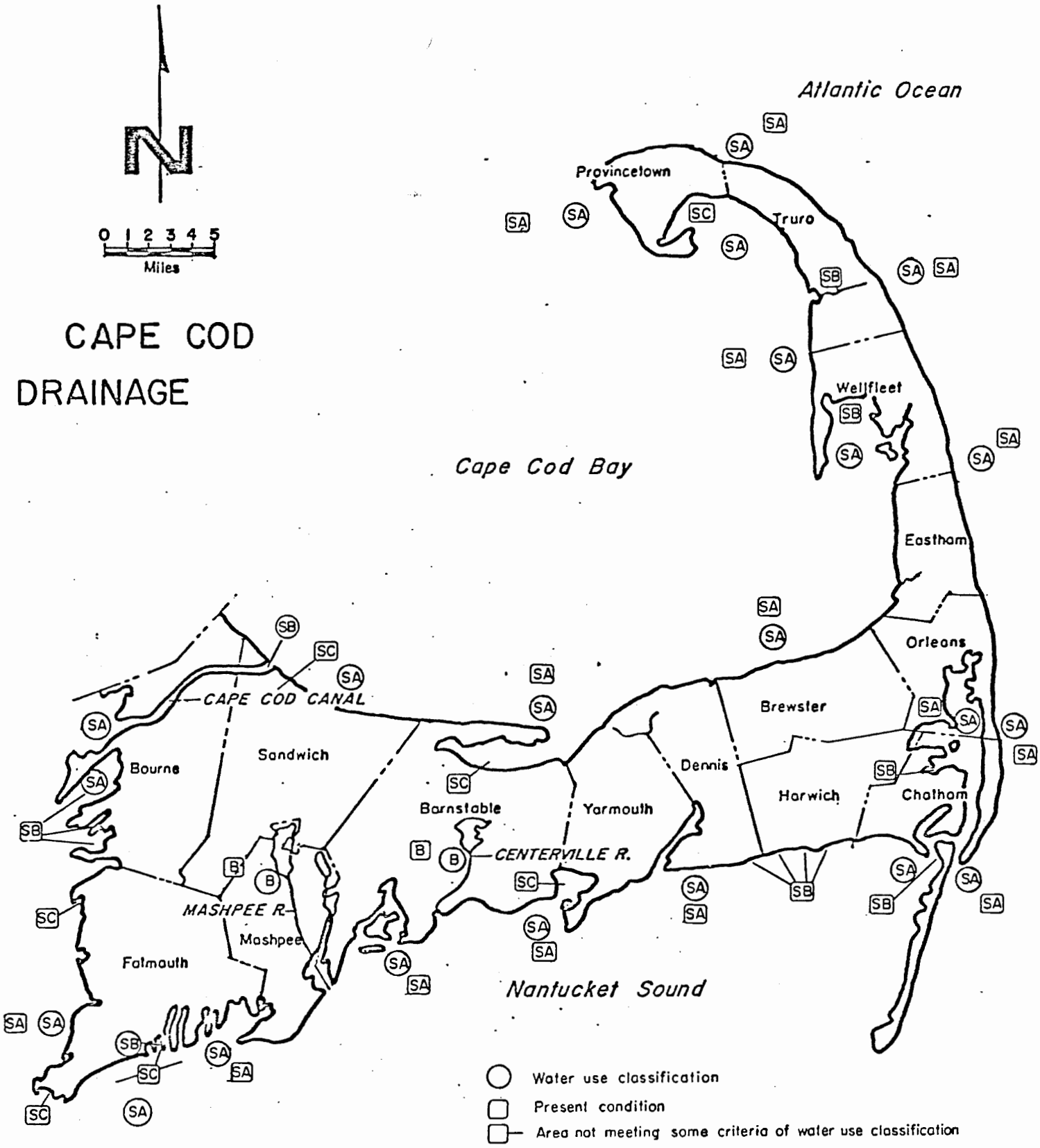
During the final sampling period (August 31 - September 1) the remainder of the waters to Provincetown were sampled. Favorable weather allowed all of the scheduled sampling locations to be completed. On September 1st, unfavorable high and gusty winds from the Southeast caused several changes in sample stations locations in Wellfleet Harbor.

Samples were collected beginning one hour before and after low tide. All of the samples were grab samples and were taken at surface levels or at depths as indicated on Table I. The first week of samples included the 5 day biochemical oxygen demand but this analyses for the remainding surveys was eliminated as a result of the consistent values found.

All samples were analyzed at the Lawrence Experiment Station of the Department of Environmental Quality Engineering. The analyses were performed according to procedures of the APHA's Standard Methods for the Analysis of Water and Wastewater (14th Edition, 1975, New York). Data were compiled and tabulated by personnel of the Massachusetts Division of Water Pollution Control, Water Quality and Research Section.



SEGMENTATION MAP



CAPE COD DRAINAGE

WATER QUALITY

TABLE 1

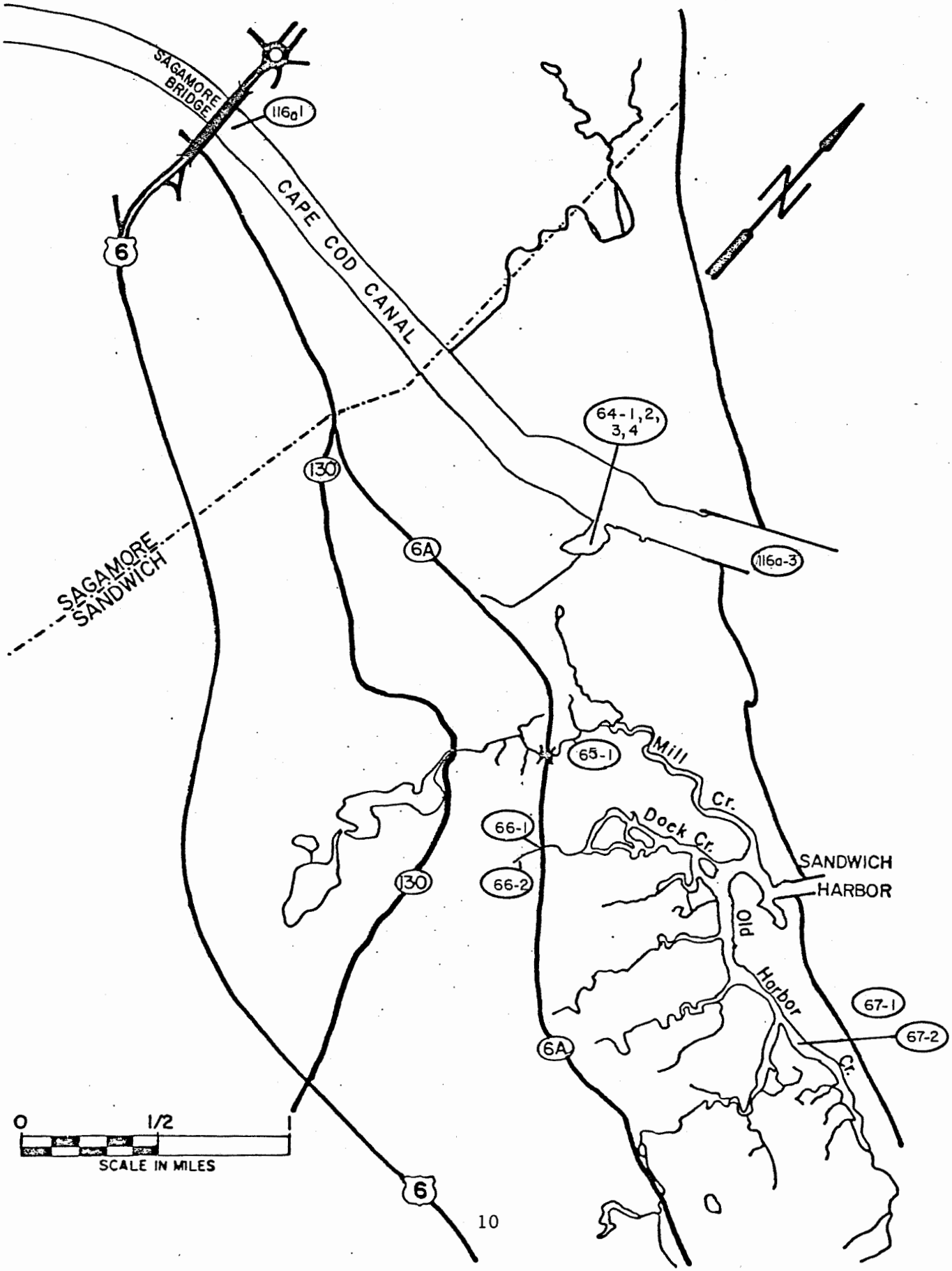
MAJOR ANTI-DEGRADATION STREAMS

CAPE COD DRAINAGE

Stream	Municipality
All freshwater streams, including:	
Bridge Creek	Barnstable
Marstons Mills River	Barnstable
Santuit River	Barnstable
Stony Brook	Brewster
Coonamesset River	Falmouth
Quashnet River	Falmouth
Childs River	Mashpee
Mashpee River	Mashpee
Mill Creek	Sandwich
Scorton Creek	Sandwich
Pamet River	Truro

SEGMENT NUMBERS

64,1-4 · 65,1 · 66,1-2 · 67,1-2 · 116a, 1&3 ·



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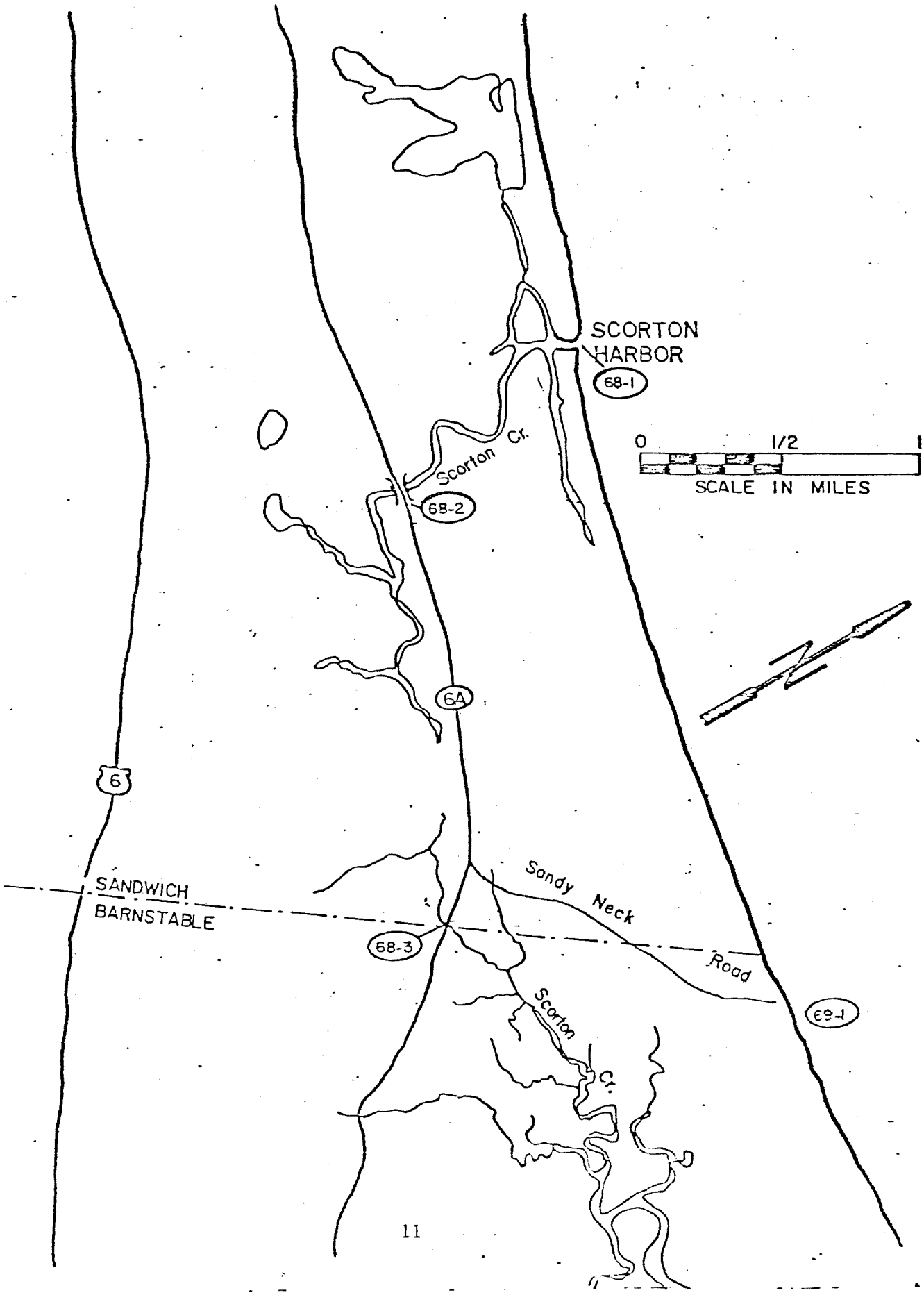

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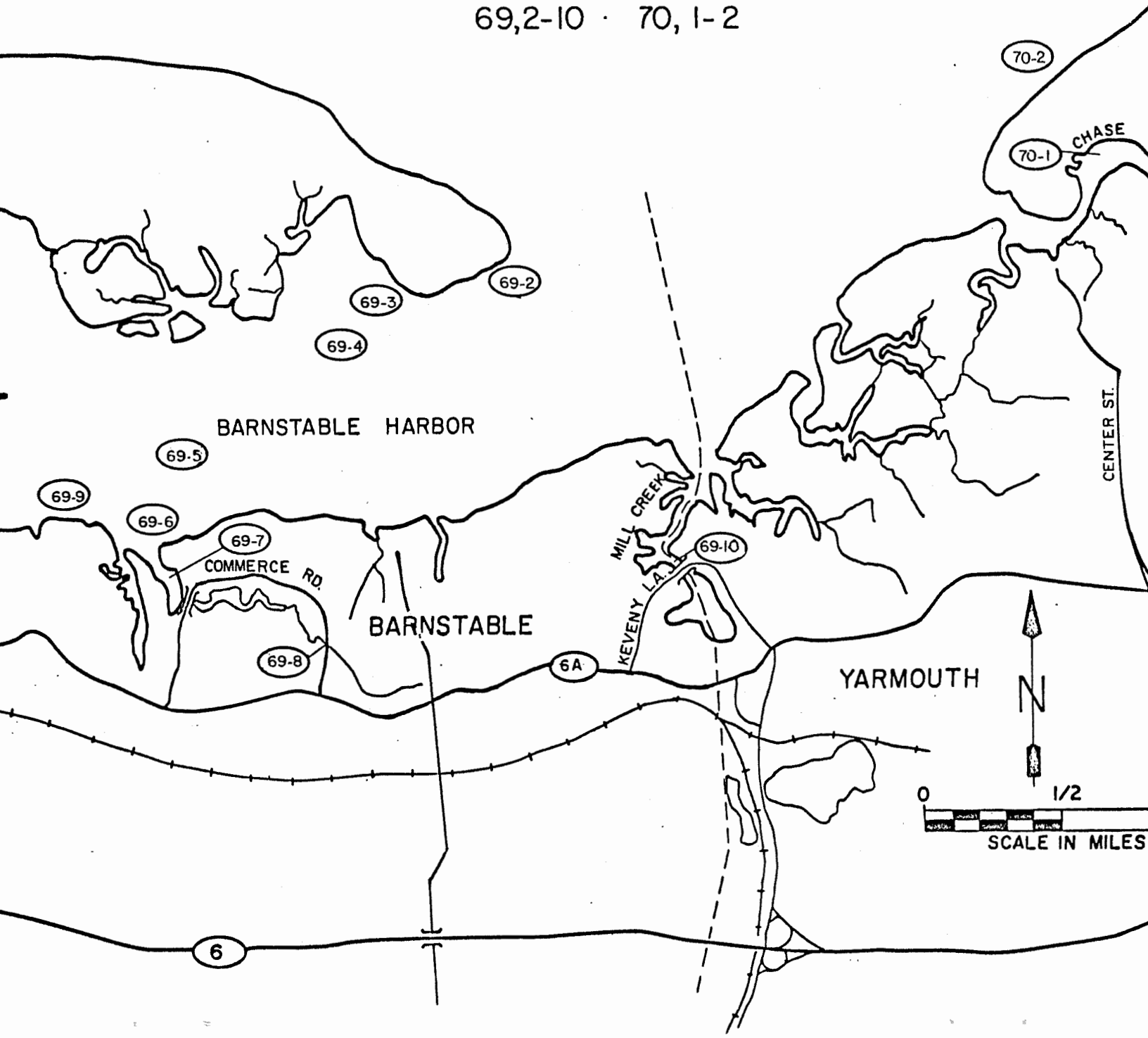

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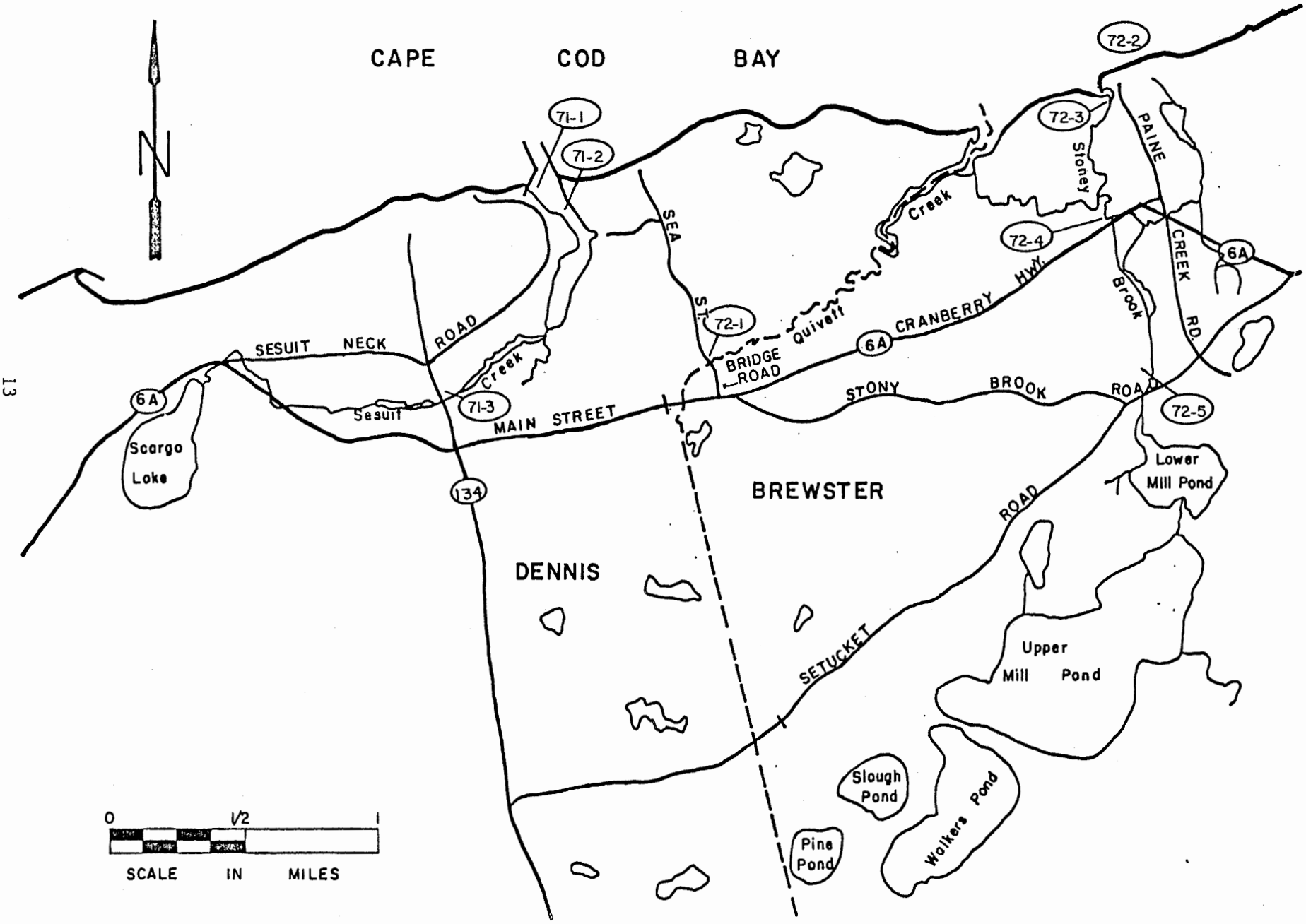

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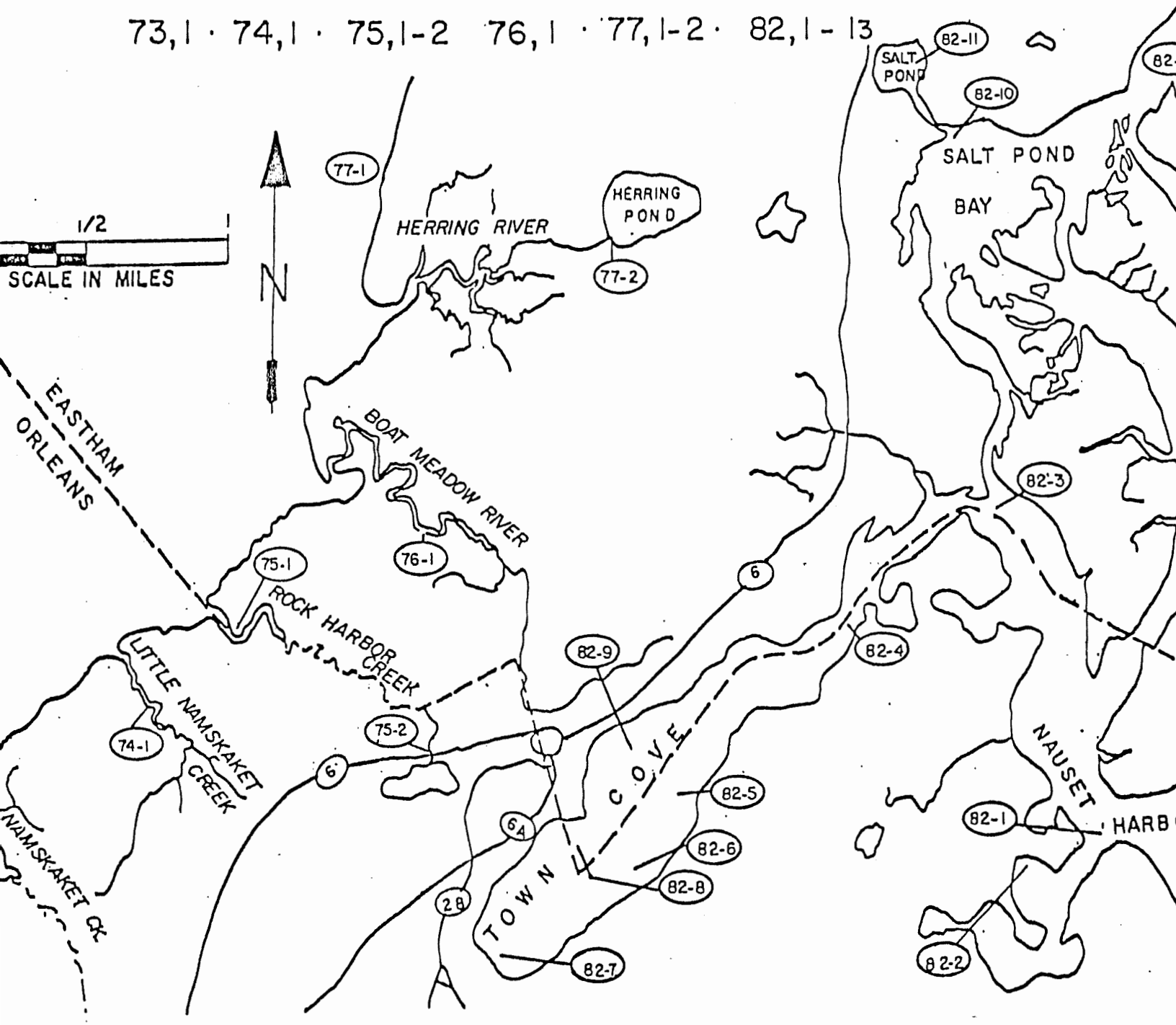
73,1 · 74,1 · 75,1-2 76,1 · 77,1-2 · 82,1 - 13



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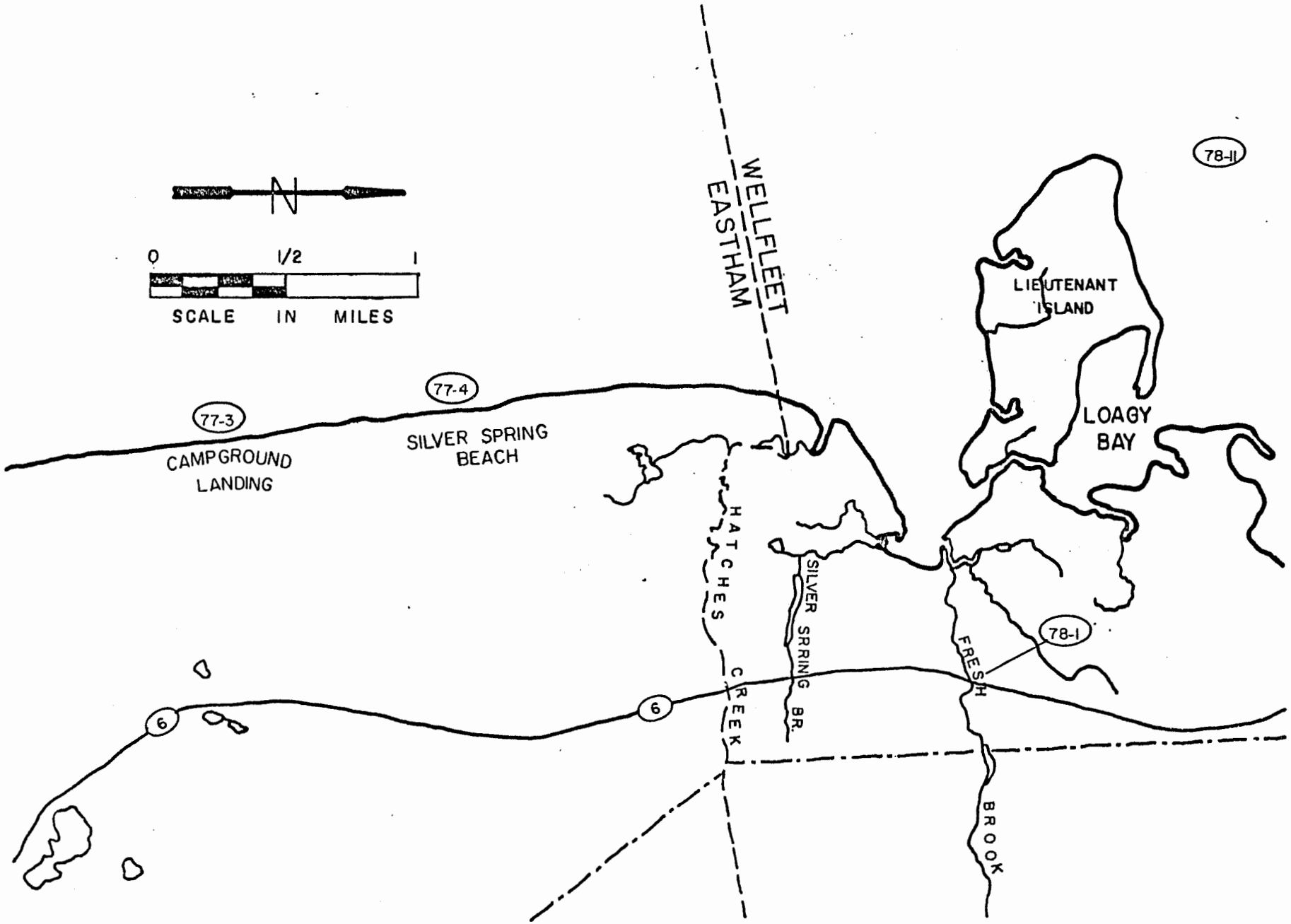

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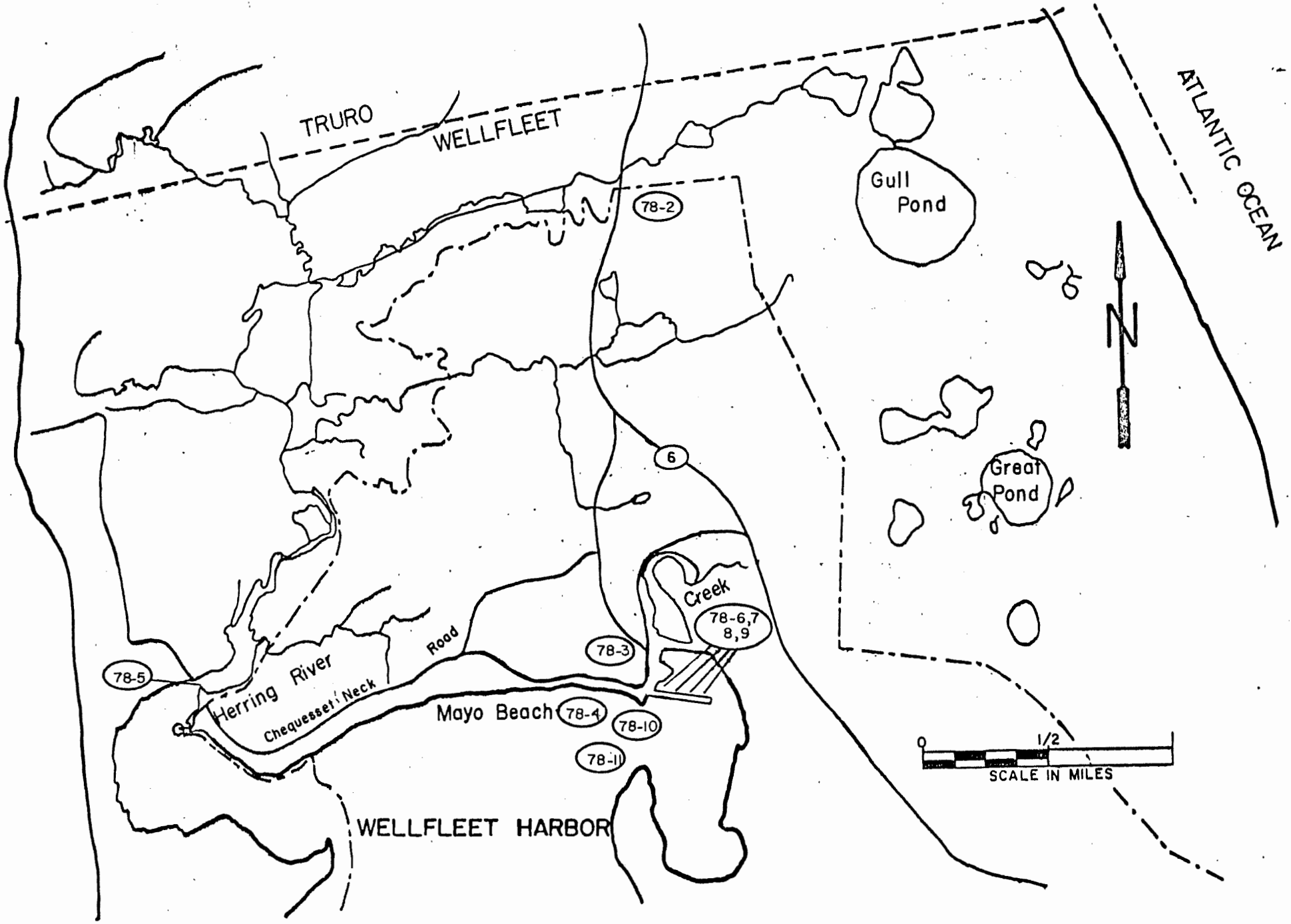

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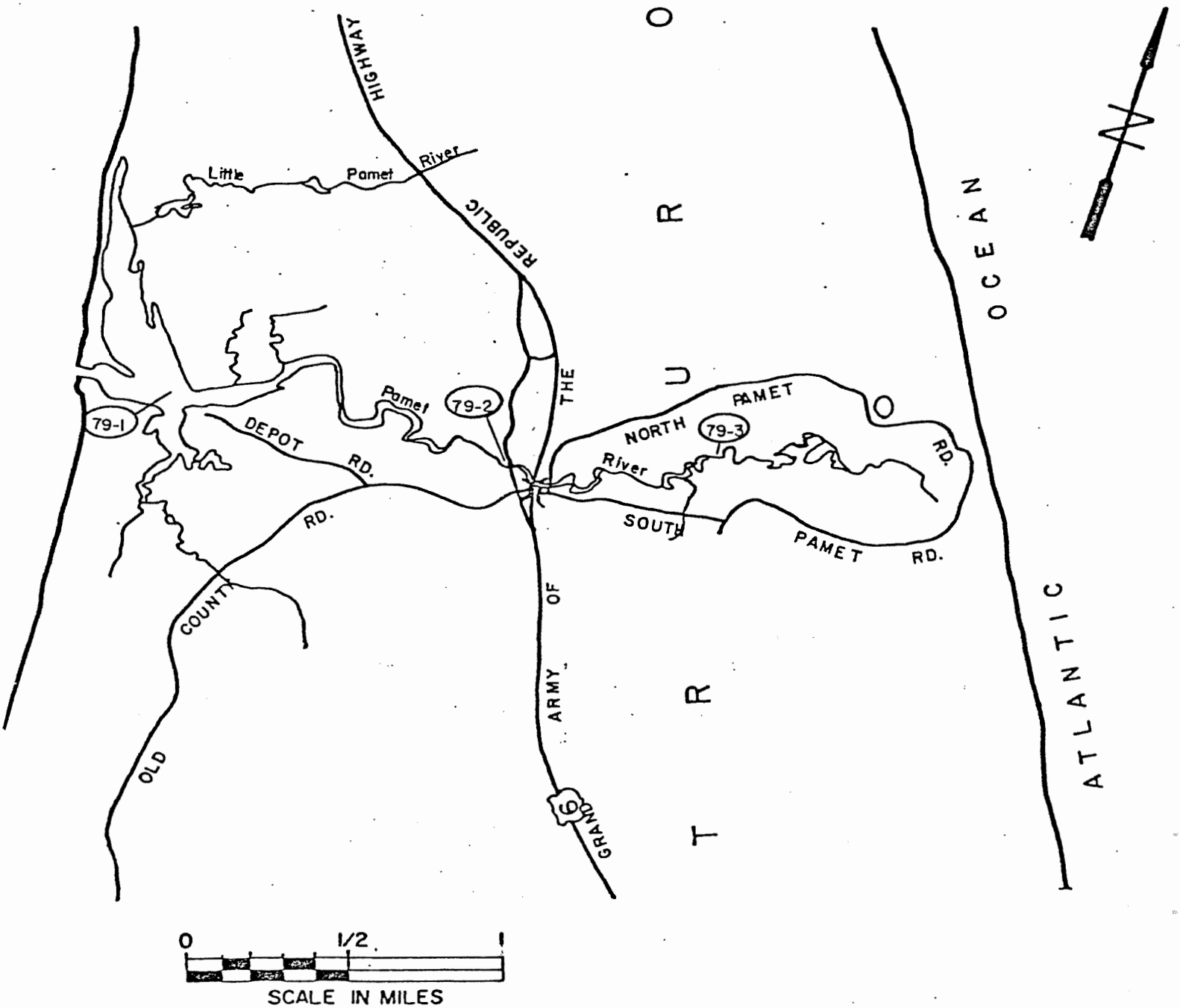

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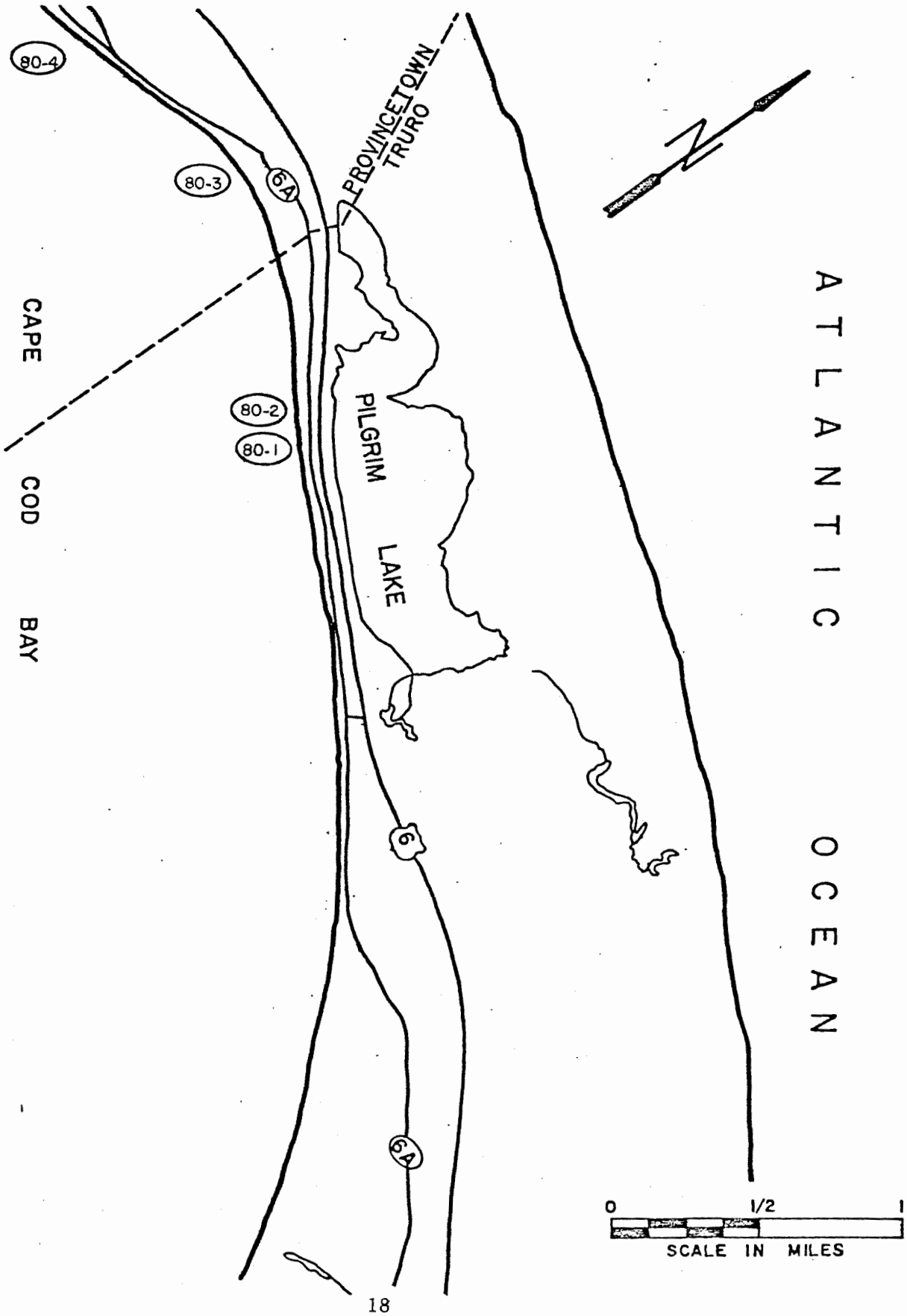

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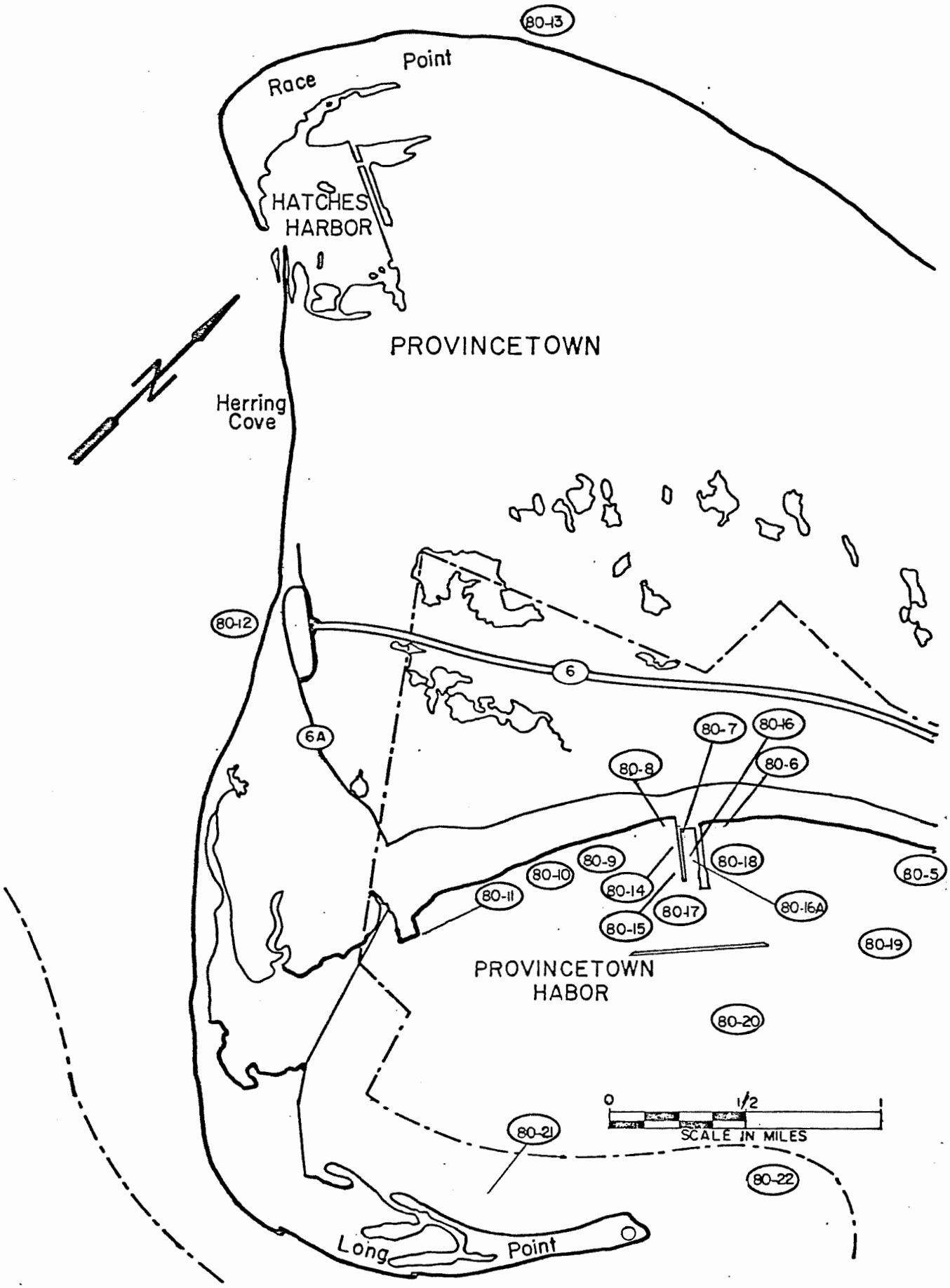

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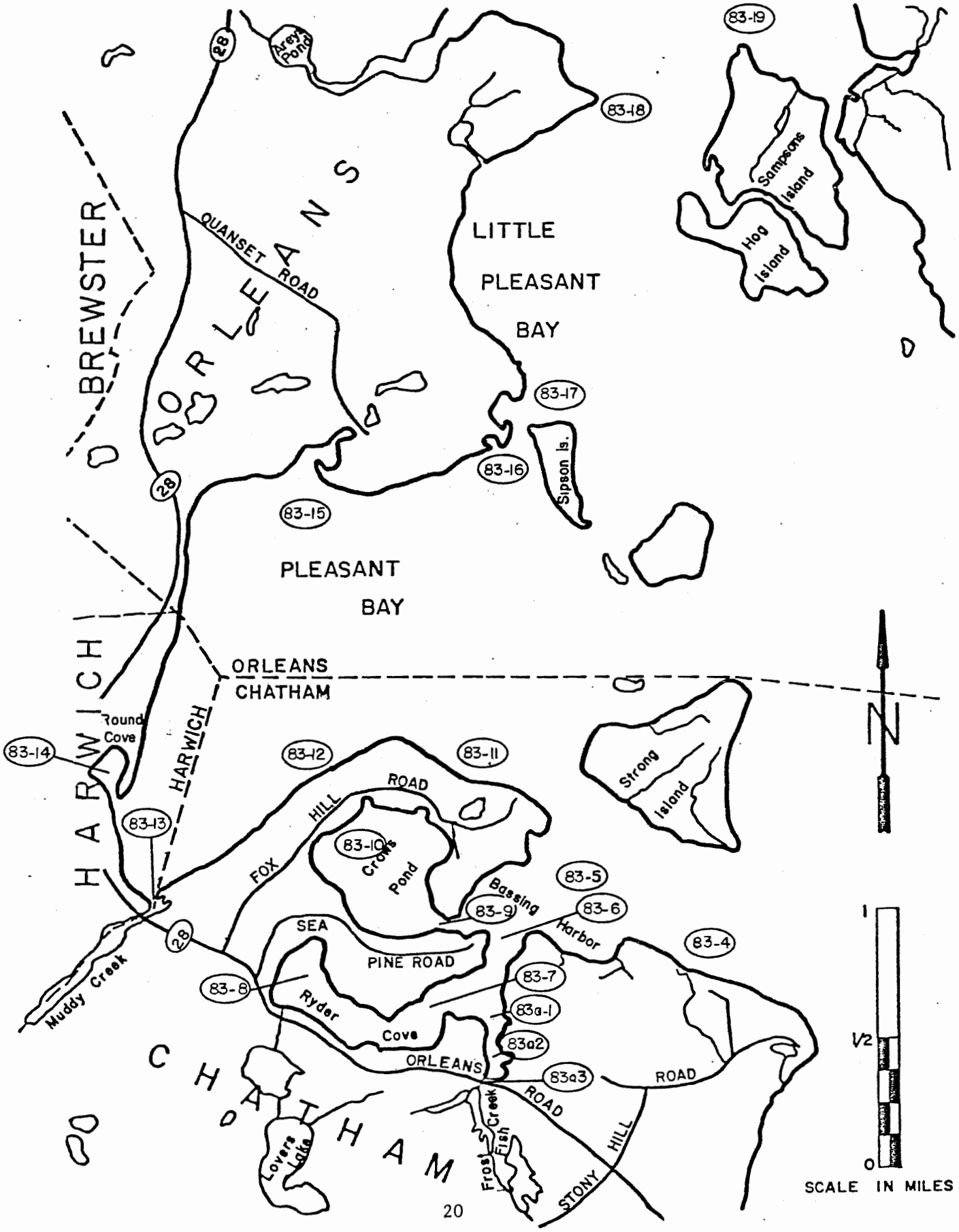

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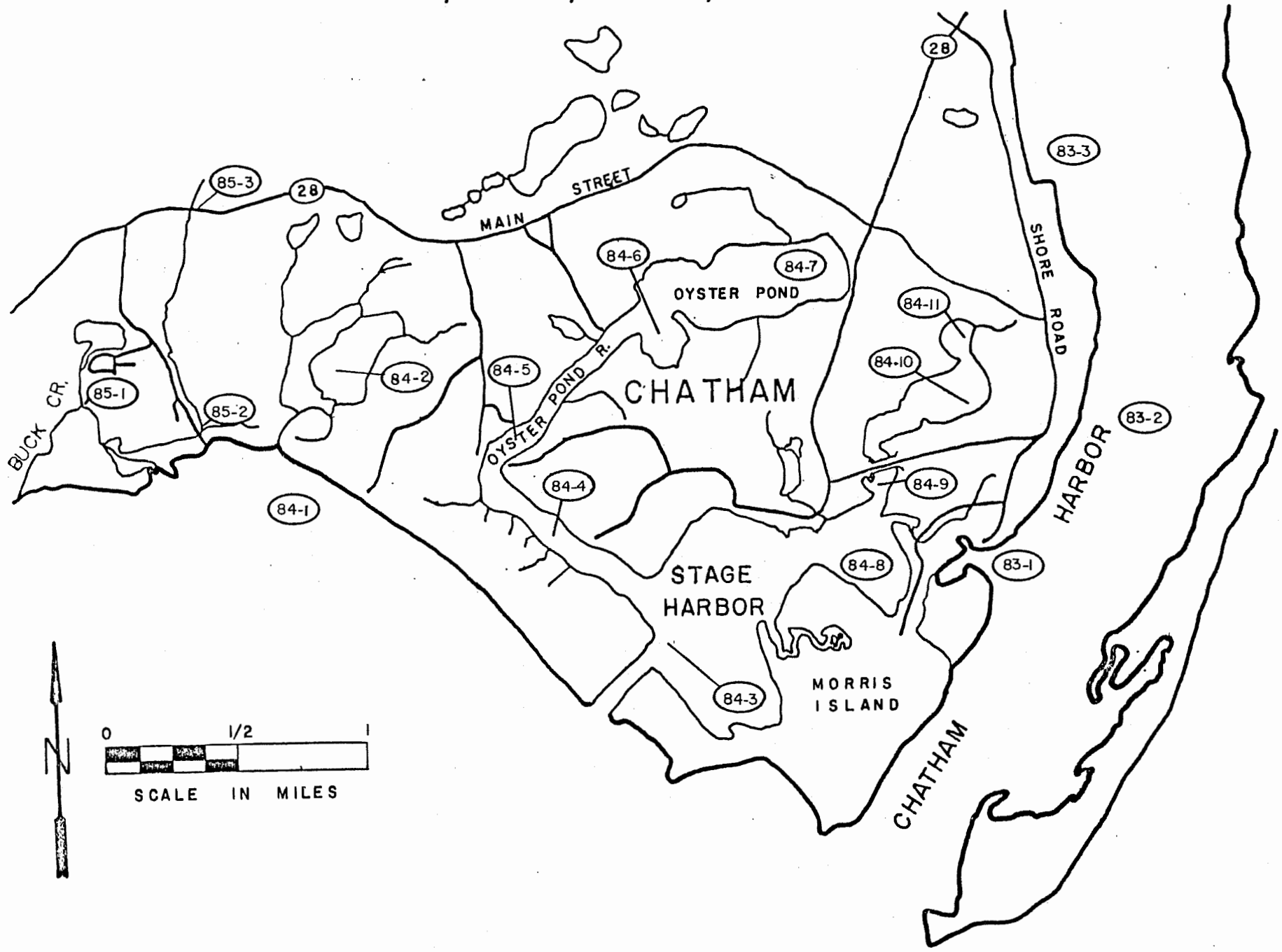

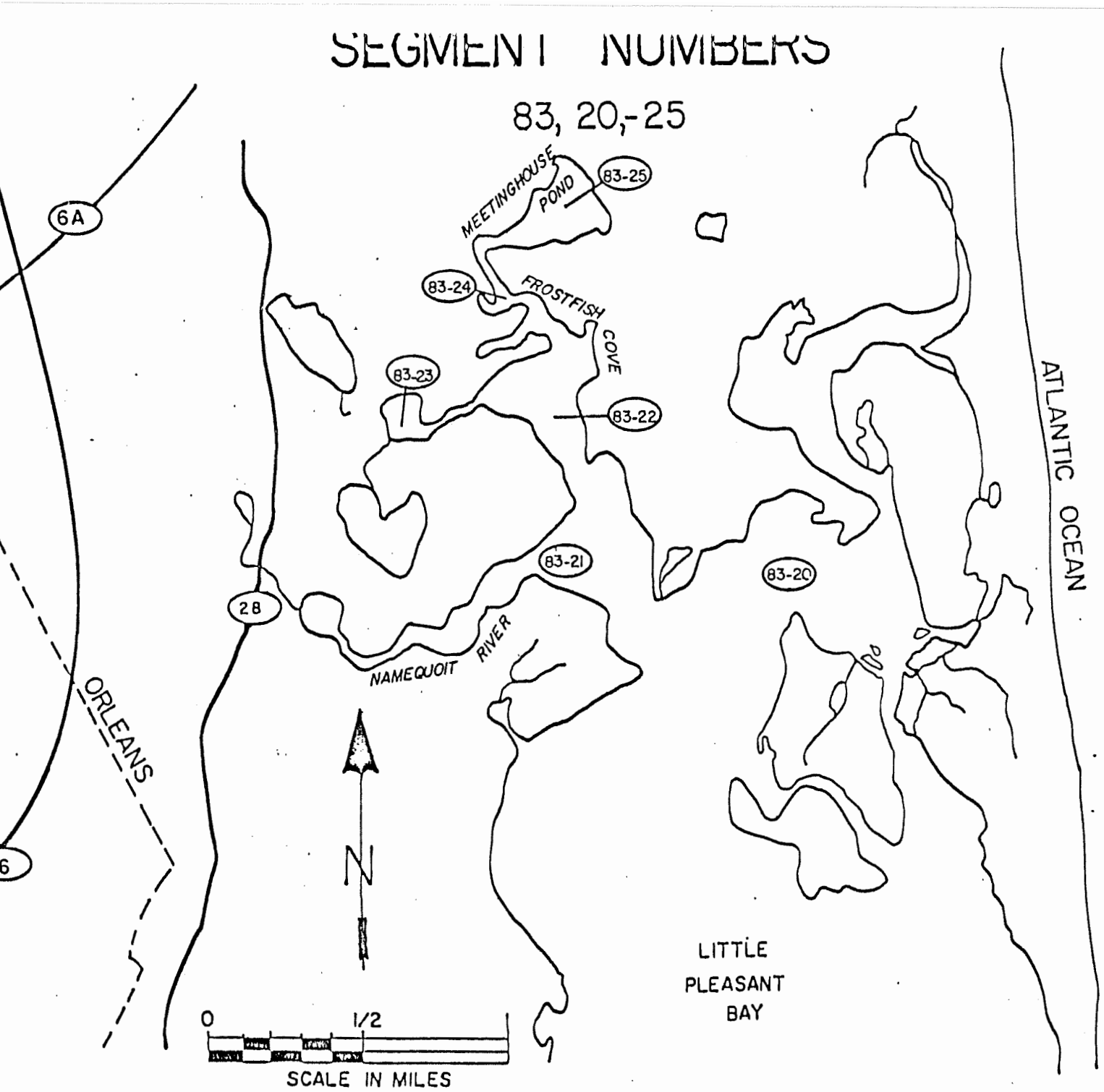
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MEETINGHOUSE POND
83-25
83-24
FROSTFISH COVE
83-23
83-22
83-21
83-20
28
NAMEQUOIT RIVER
6A
ORLEANS
6
ATLANTIC OCEAN
LITTLE PLEASANT BAY
N
0
1/2
SCALE IN MILES

SEGMENT NUMBERS

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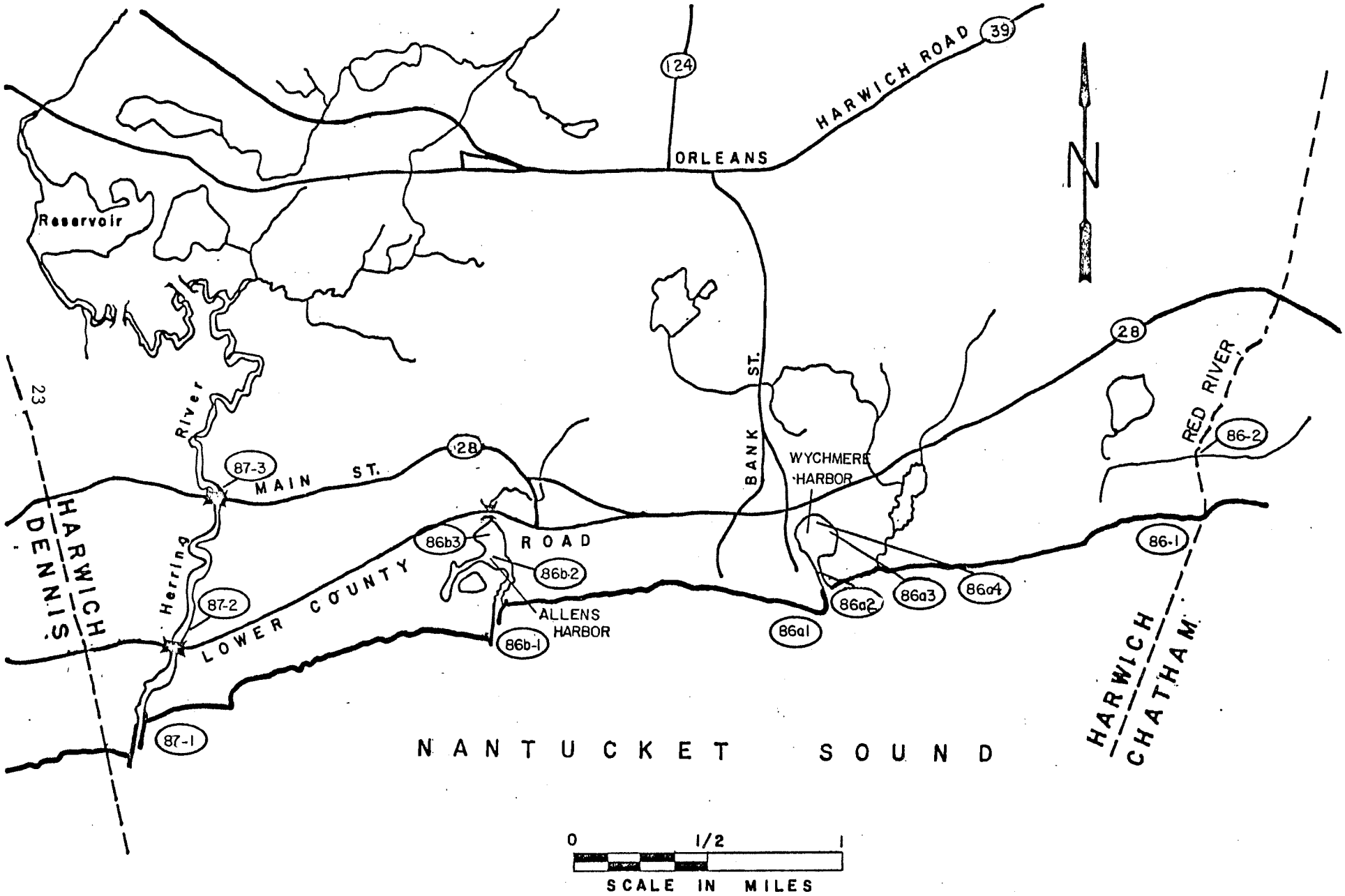

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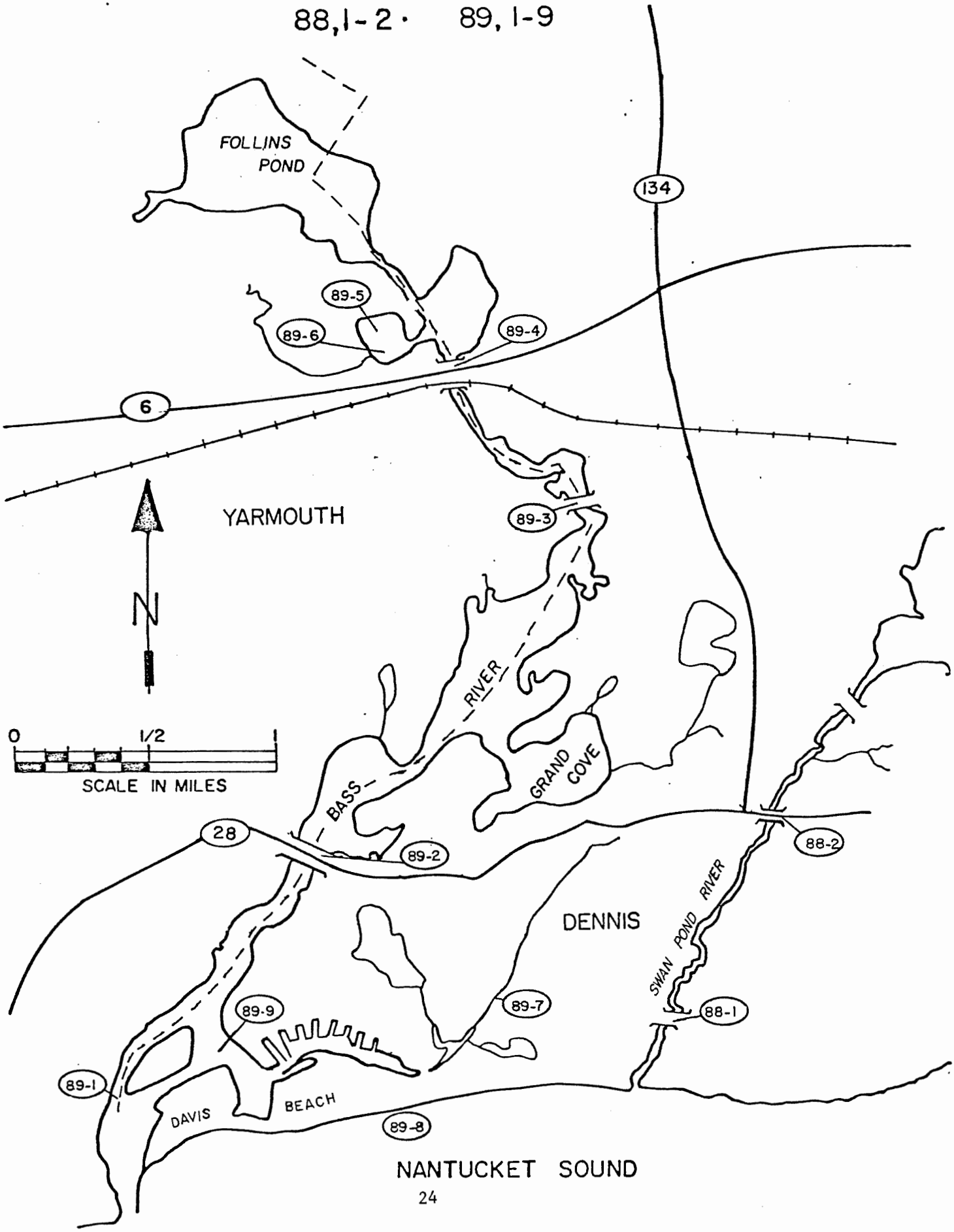

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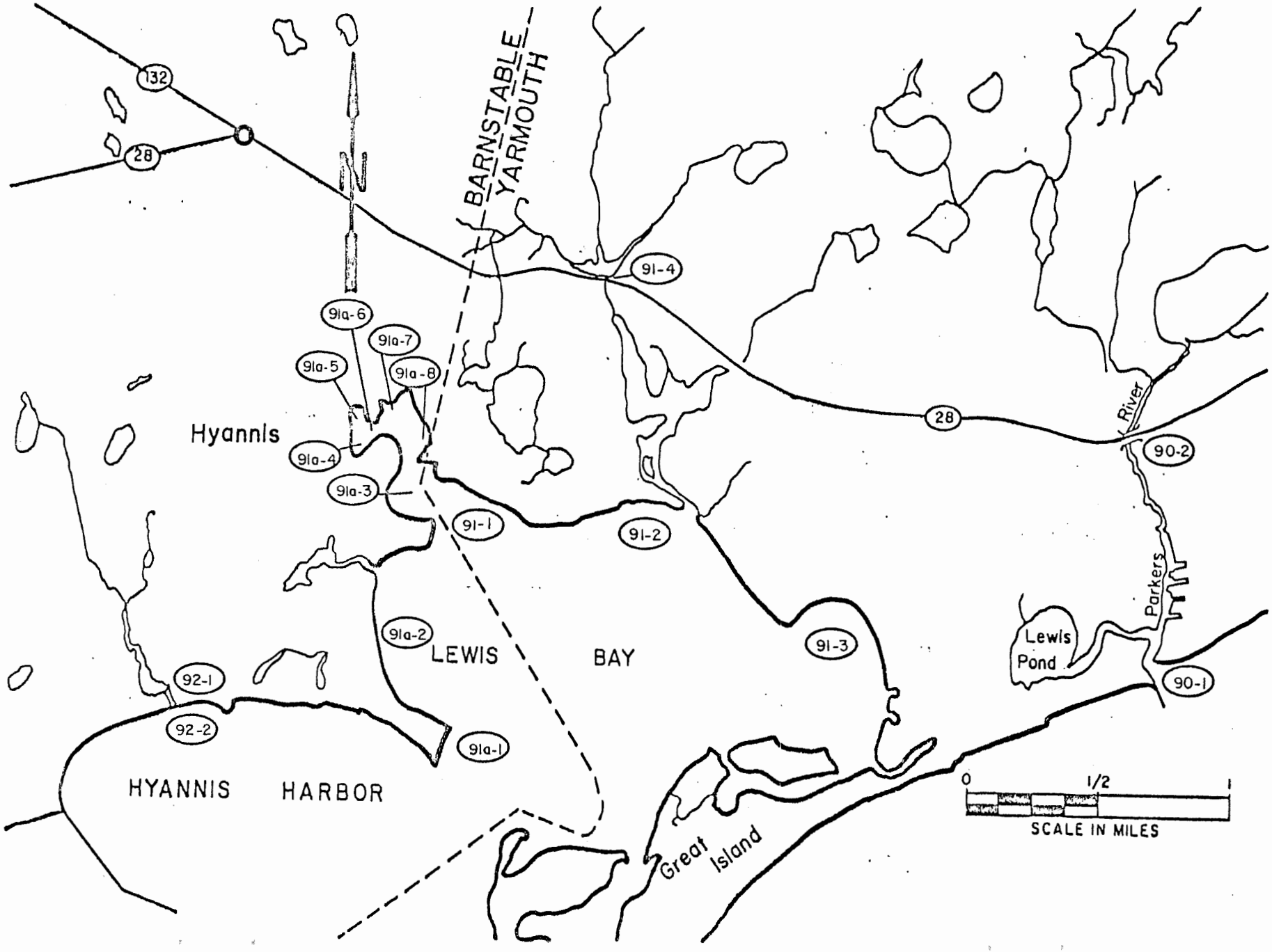

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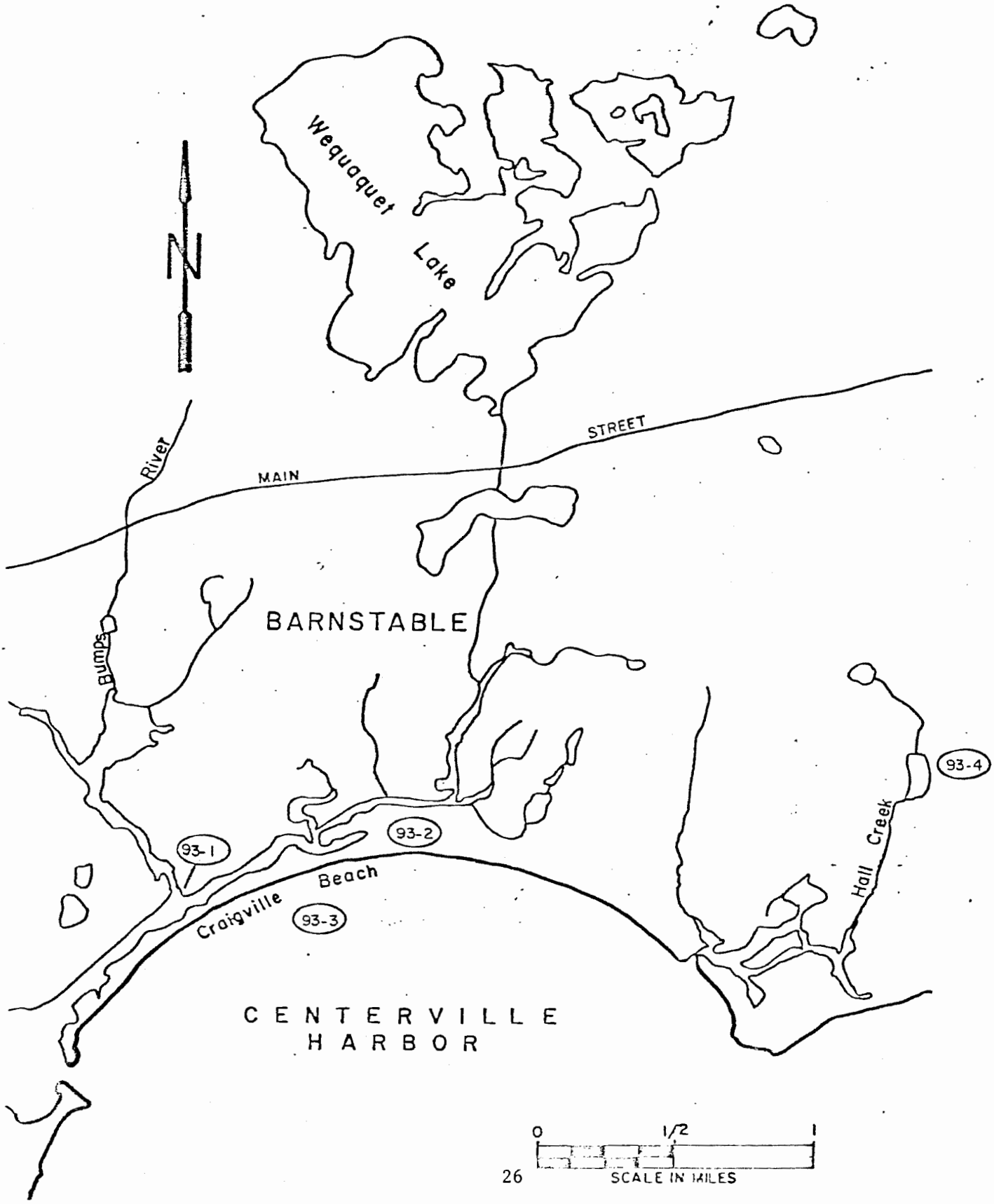

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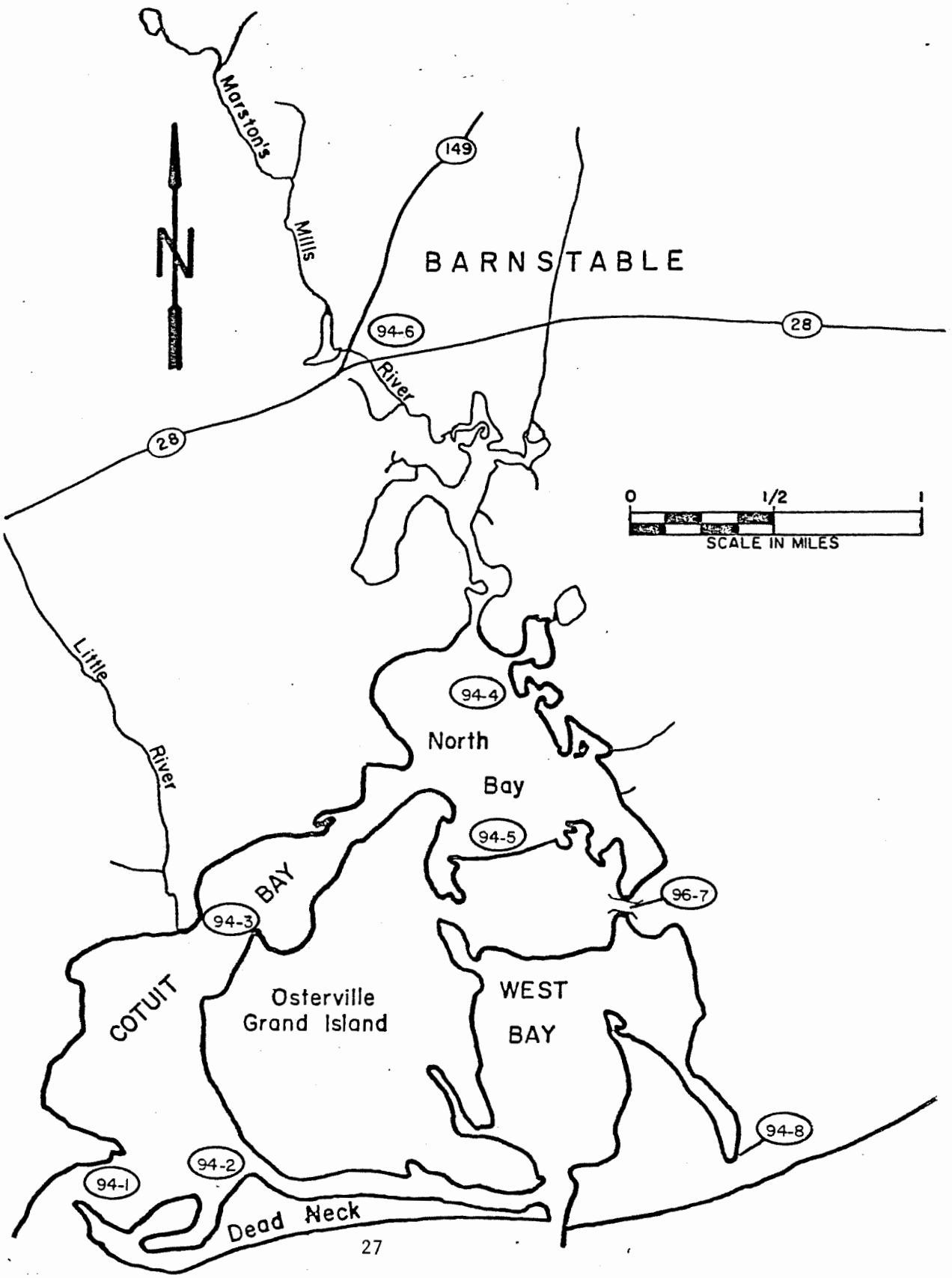

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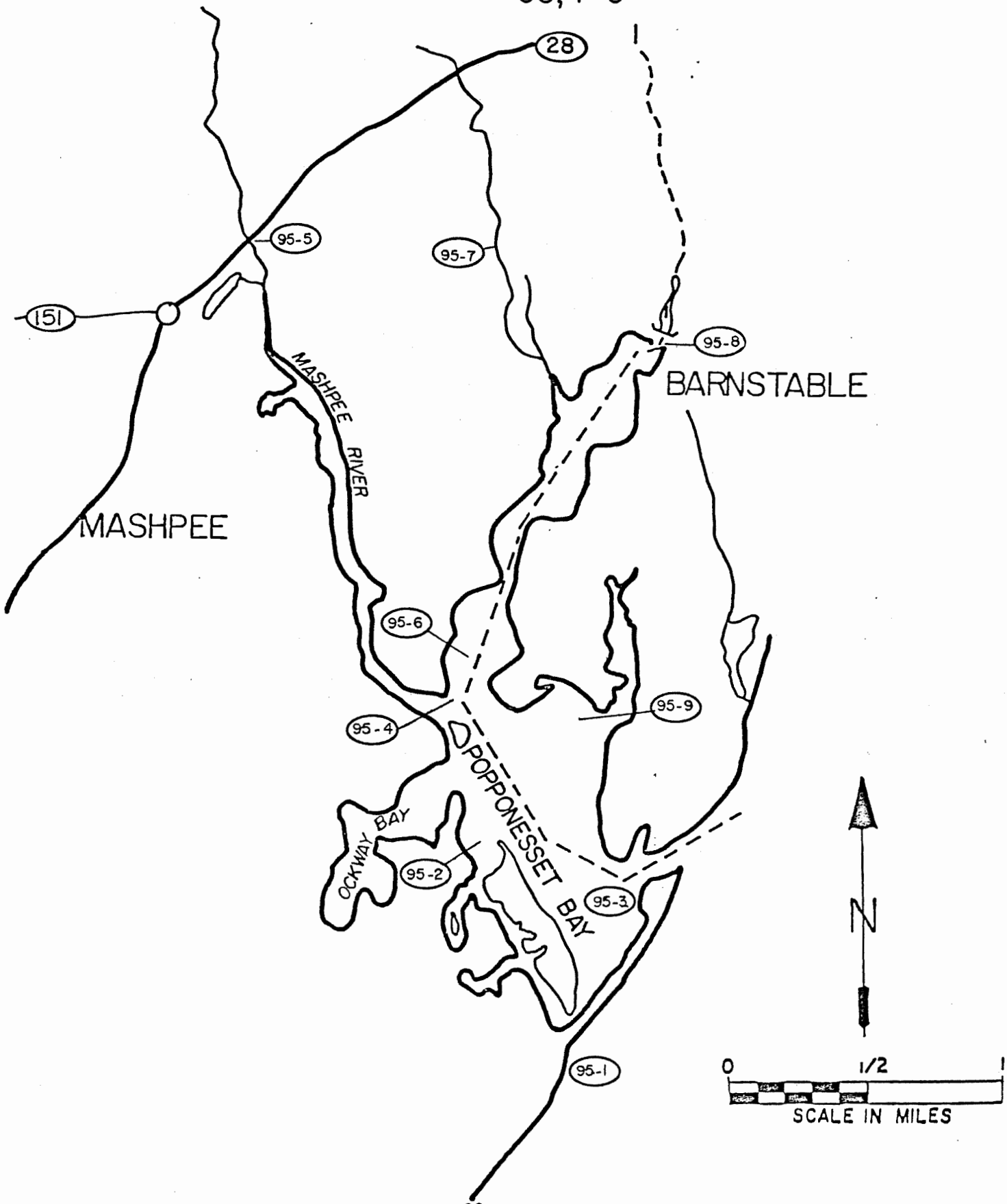

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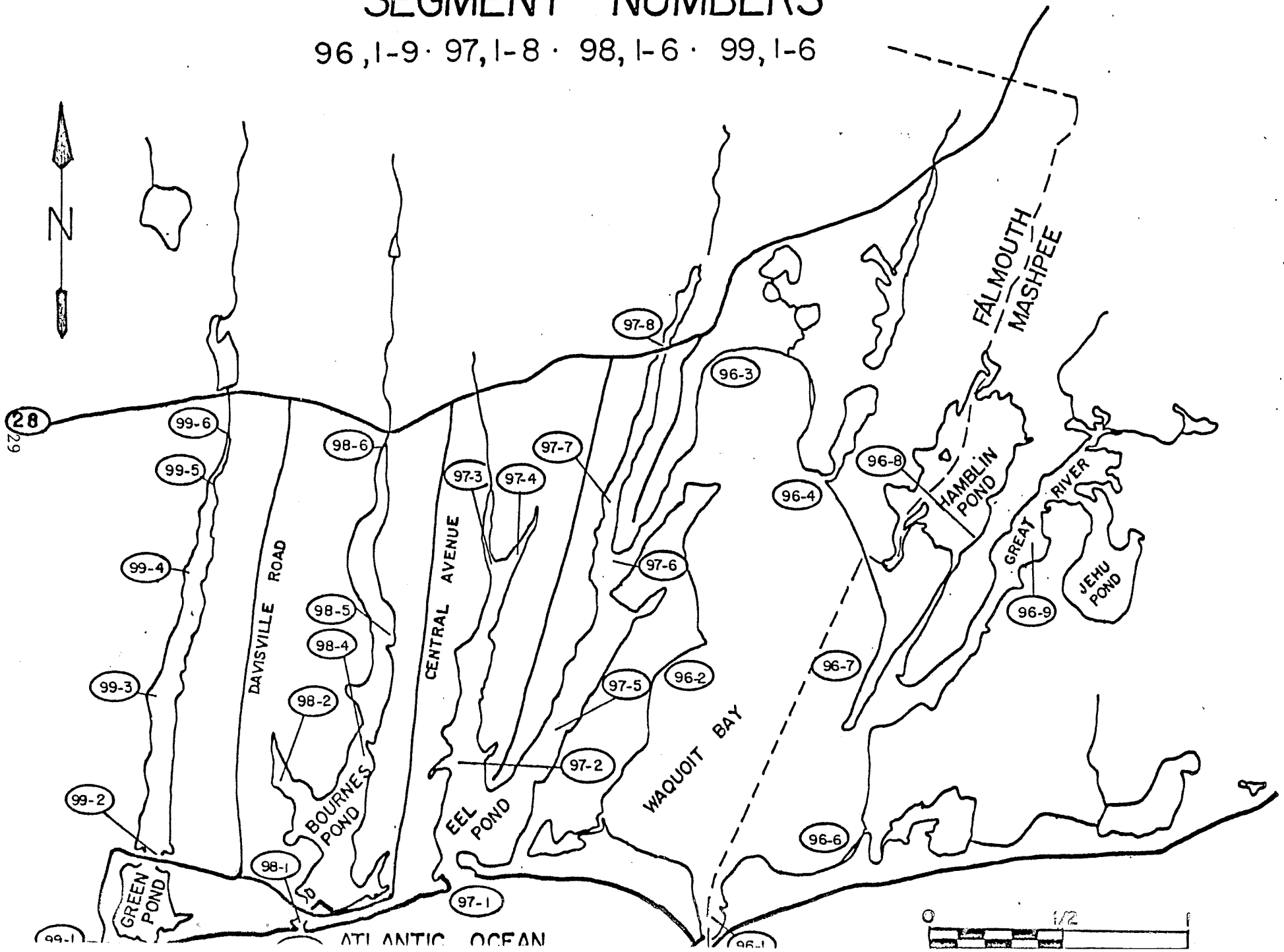

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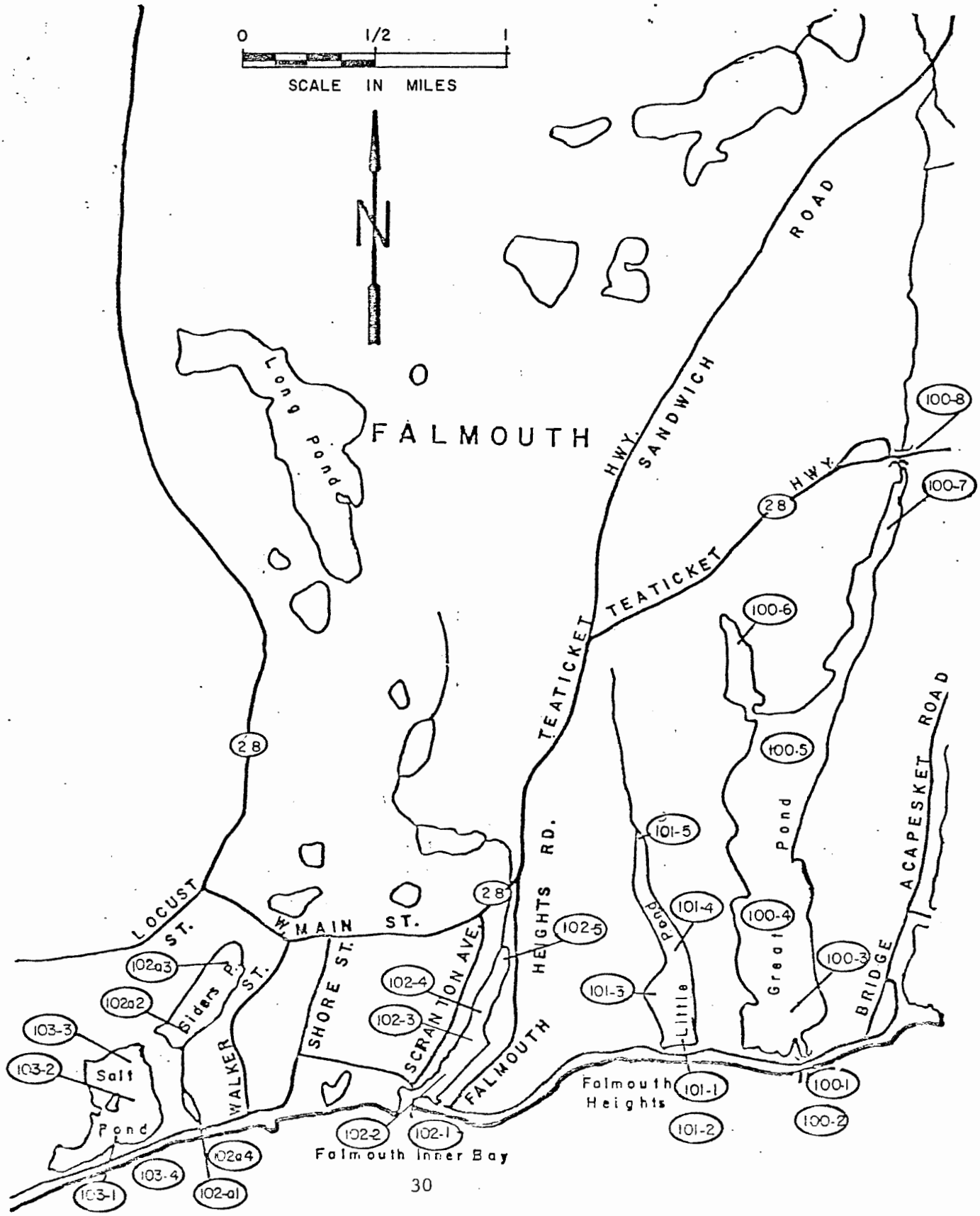
102a, 1-4



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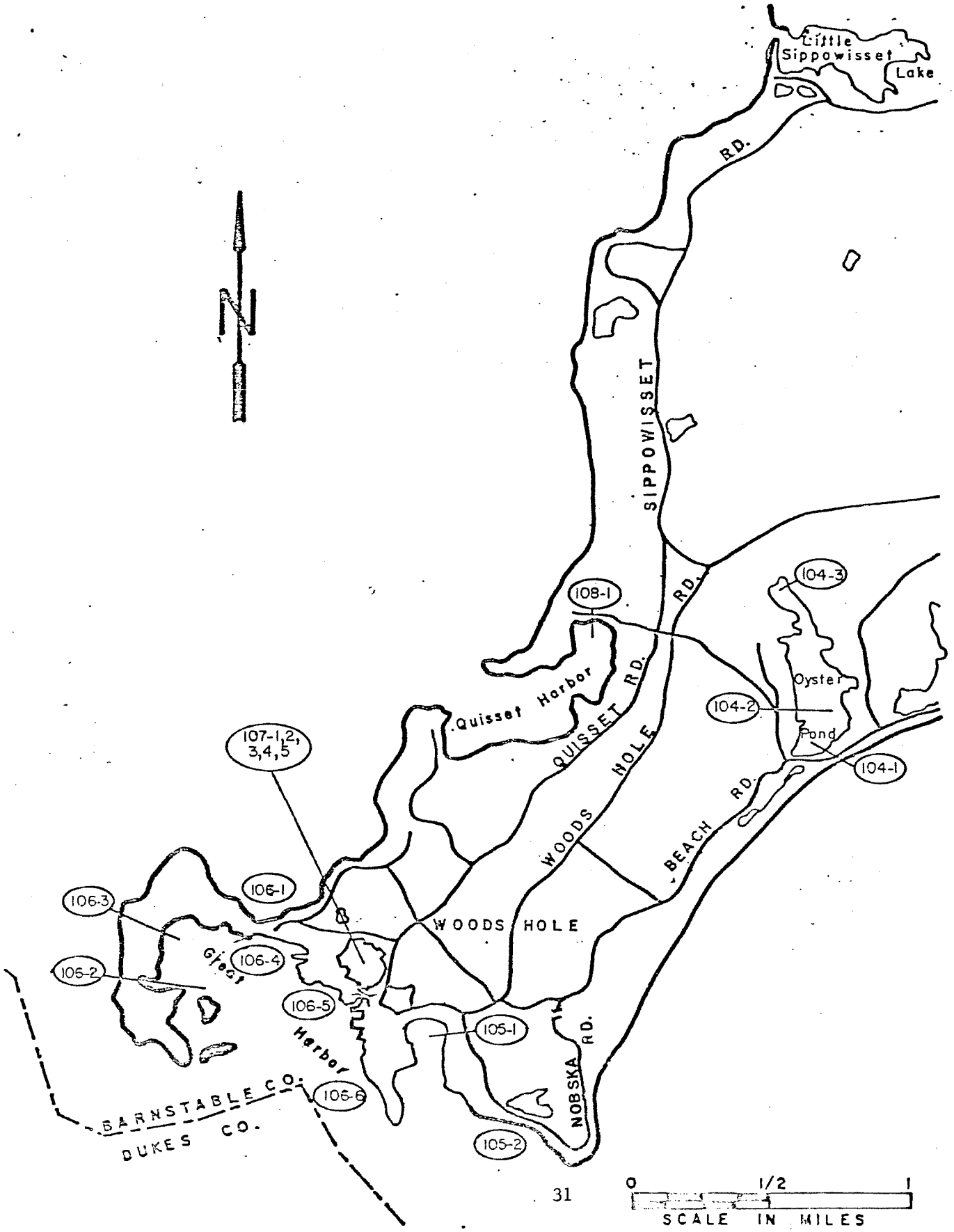

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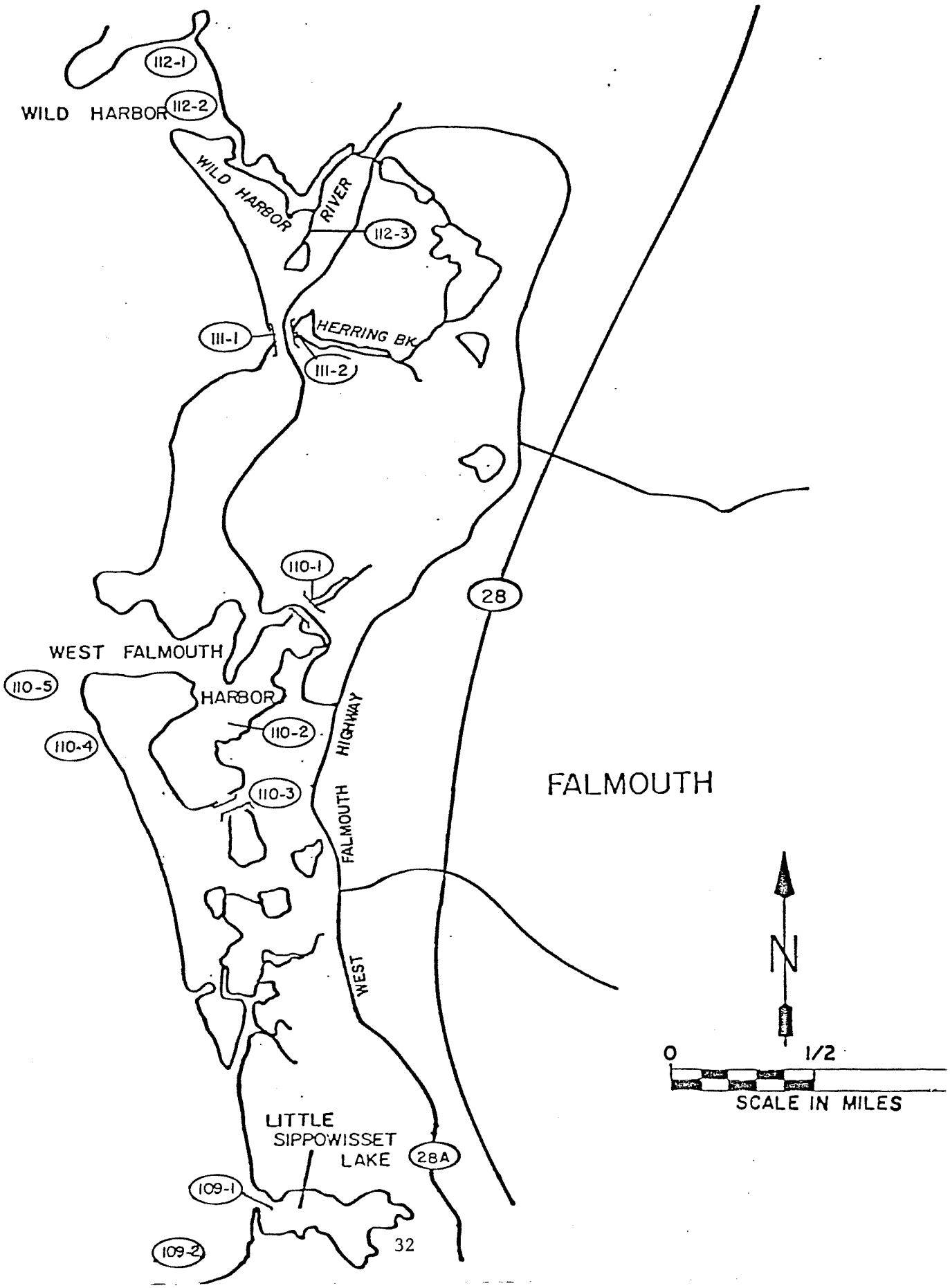

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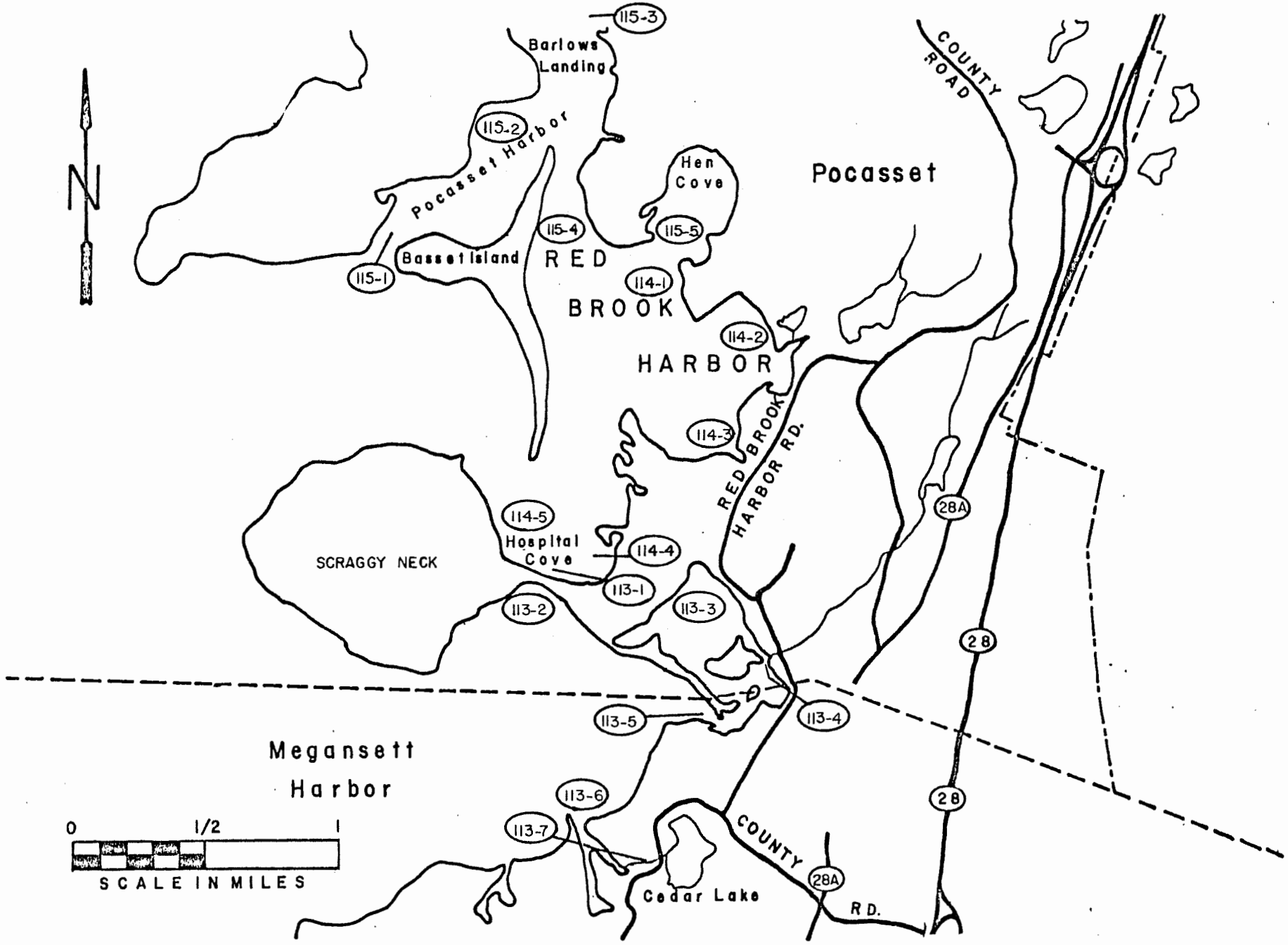

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116, 1-7 · 116a, 2-3

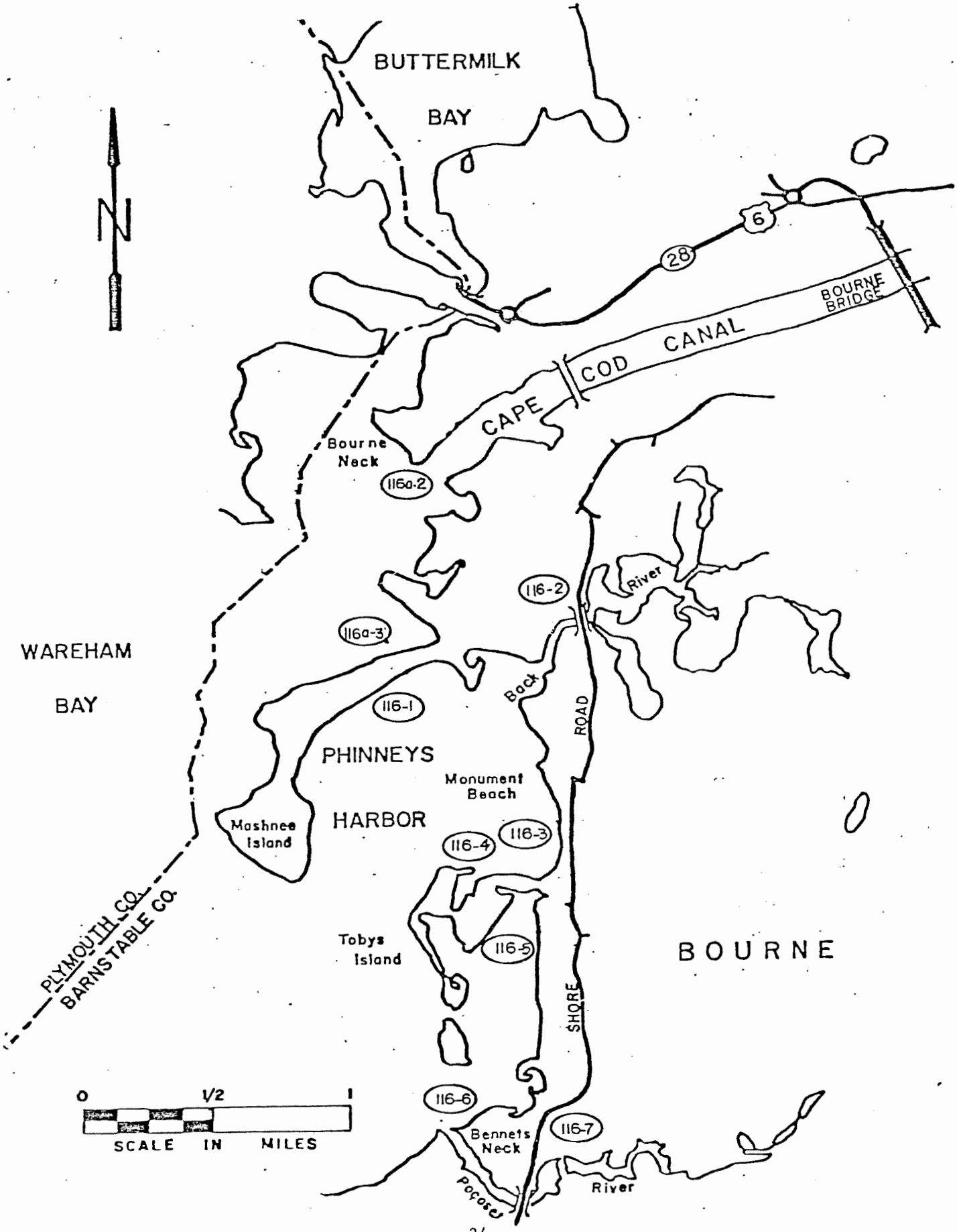

TABLE 2

CAPE COD 1976 SURVEY

LOCATION OF SAMPLING STATIONS

SAMPLE NUMBER	MUNICIPALITY	LOCATION
SS64A-1	Sandwich	Cape Cod Canal - Canal Basin, East
SS64A-2	Sandwich	Cape Cod Canal - Canal Basin, East
SS64A-3	Sandwich	Cape Cod Canal - Canal Basin, East
SS64A-4	Sandwich	Cape Cod Canal - Canal Basin, East
SS65-1	Sandwich	Mill Creek - Rear of Police Station behind Post Office
SS66-1	Sandwich	Dock Creek - On 6A
SS66-2	Sandwich	Dock Creek - Unnamed Tributary from State Fish Hatchery
SS67-1	Sandwich	Old Harbor Creek - Springhill Beach
SS67-2	Sandwich	Old Harbor Creek - Above Confluence with Springhill Creek
SS68-1	Sandwich	Scorton Creek - At Mouth
SS68-2	Sandwich	Scorton Creek - On 6A
SS68-3	Sandwich	Scorton Creek - Route 6A - Sandwich, Barnstable Town Line
SS69-1	Barnstable	Barnstable Harbor - Sandy Neck Beach off Sandy Neck Road
SS69-2	Barnstable	Barnstable Harbor - Off Beach Point
SS69-3	Barnstable	Barnstable Harbor - South of Abandoned Lighthouse
SS69-4	Barnstable	Barnstable Harbor - West of Horseshoe Shoal
SS69-5	Barnstable	Barnstable Harbor - 100 yds. North of Blish Point
SS69-6	Barnstable	Barnstable Harbor - Entrance to Blish Point
SS69-7	Barnstable	Barnstable Harbor - At Town Launch
SS69-8	Barnstable	Barnstable Harbor - Maraspin Creek - Commerce Road
SS69-9	Barnstable	Barnstable Harbor - Salten Point on Beach
SS69-10	Barnstable	Barnstable Harbor - Mill Creek at Keveney Lane

TABLE 2 (CONTINUED)

SAMPLE NUMBER	MUNICIPALITY	LOCATION
SS70-1	Yarmouth	Chase Garden Creek - Beach Road to Aquaculture
SS70-2	Yarmouth	Chase Garden Creek - Chapin Memorial Beach
SS71-1	Dennis	Sesuit Creek - Sesuit Harbor Entrance
SS71-2	Dennis	Sesuit Creek - 50 yds. upstream
SS71-3	Dennis	Sesuit Creek - At Bridge Street
SS72-1	Brewster, Dennis	Quivett Creek - At Sea Street
SS72-2	Brewster, Dennis	Quivett Creek - Stoney Brook Beach
SS72-3	Brewster, Dennis	Quivett Creek - Stoney Brook at Duck Farm Lane
SS72-4	Brewster, Dennis	Quivett Creek - Route 6A - Stoney Brook
SS72-5	Brewster, Dennis	Quivett Creek - Outlet Lower Mill Pond - Stoney Brook
SS73-1	Orleans	Namskaket Creek - Skaket Beach
SS74-1	Orleans	Little Namskaket Creek - Off Namskaket Road
SS75-1	Eastham	Rock Harbor Creek - At Mouth, - Rock Harbor Road
SS75-2	Eastham	Rock Harbor Creek - Outlet of Cedar Pond
SS76-1	Eastham	Boat Meadow River - Bridge Road
SS77-1	Eastham	Herring River - First Encounter Beach
SS77-2	Eastham	Herring River - Herring Brook Road
SS77-3	Eastham	Herring River - Campground Landing
SS77-4	Eastham	Herring River - Silver Spring Beach
SS78-1	Wellfleet	Wellfleet Harbor - Fresh Brook at Route 6
SS78-2	Wellfleet	Wellfleet Harbor - Herring River at Route 6

TABLE 2 (CONTINUED)

SAMPLE NUMBER	MUNICIPALITY	LOCATION
SS78-3	Wellfleet	Wellfleet Harbor - Tributary at Chequesset Neck Road
SS78-4	Wellfleet	Wellfleet Harbor - Mayo Beach
SS78-5	Wellfleet	Wellfleet Harbor - Herring River at Chequesset Neck Road
SS78-6	Wellfleet	Wellfleet Harbor - Duck Creek
SS78-7	Wellfleet	Wellfleet Harbor - Duck Creek
SS78-8	Wellfleet	Wellfleet Harbor - Duck Creek
SS78-9	Wellfleet	Wellfleet Harbor - Duck Creek
SS78-10	Wellfleet	Wellfleet Harbor - Off Shirttail Point
SS78-11	Wellfleet	Wellfleet Harbor - Off Indian Neck Breakwater
SS79-1	Truro	Pamet River - End of Depot Road
SS79-2	Truro	Pamet River - At Castle Road
SS79-3	Truro	Pamet River - Pamet Road, North
SS80-1	Truro	Provincetown Harbor - Near Topmast Motel on Pilgrim Beach
SS80-2	Truro	Provincetown Harbor - Near Shoreline Village on Pilgrim Beach
SS80-3	Provincetown	Provincetown Harbor - Near The Tides, Mayflower Heights
SS80-4	Provincetown	Provincetown Harbor - On beach, opposite Bradford and Commerical Streets
SS80-5	Provincetown	Provincetown Harbor - The Old Wharf
SS80-6	Provincetown	Provincetown Harbor - Along beach
SS80-7	Provincetown	Provincetown Harbor - Along beach
SS80-8	Provincetown	Provincetown Harbor - Along beach
SS80-9	Provincetown	Provincetown Harbor - Town Landing

TABLE 2 (CONTINUED)

SAMPLE NUMBER	MUNICIPALITY	LOCATION
SS80-10	Provincetown	Provincetown Harbor - Town Landing
SS80-11	Provincetown	Provincetown Harbor - Near Provincetown Inn Motel
SS80-12	Provincetown	Provincetown Harbor - Provincetown Beach
SS80-13	Provincetown	Provincetown Harbor - Race Point Coast Guard Station
SS80-14	Provincetown	Provincetown Harbor - West of Municipal Wharf at Midpoint
SS80-15	Provincetown	Provincetown Harbor - West of Municipal Wharf at End
SS80-16	Provincetown	Provincetown Harbor - 20 yds. from Shore at Municipal Wharf
SS80-16A	Provincetown	Provincetown Harbor - At Midpoint of Municipal Wharf
SS80-17	Provincetown	Provincetown Harbor - At End of Municipal Wharf
SS80-18	Provincetown	Provincetown Harbor - East side of Municipal Wharf Midpoint
SS80-19	Provincetown	Provincetown Harbor - 300 yds. East of Breakwall
SS80-20	Provincetown	Provincetown Harbor - 100 yds. Southeast of Breakwall
SS80-21	Provincetown	Provincetown Harbor - 500 yds. West of Lighthouse
SS80-22	Provincetown	Provincetown Harbor - 400 yds. Northeast of Lighthouse
SS82-1	Orleans	Nauset Harbor - Mouth of Mill Pond
SS82-2	Orleans	Nauset Harbor - Mill Pond - West Cove at Tenset
SS82-3	Orleans	Nauset Harbor - West of Stony Island
SS82-4	Orleans	Nauset Harbor - Northeast of Hopkins Island
SS82-5	Orleans	Nauset Harbor - Off Rocky Point
SS82-6	Orleans	Nauset Harbor - 100 yds. South at Jetty
SS82-7	Orleans	Nauset Harbor - Town Cove - Jetty at Southwest

TABLE 2 (CONTINUED)

SAMPLE NUMBER	MUNICIPALITY	LOCATION
SS82-8	Orleans	Nauset Harbor - Eastham-Orleans Town Line
SS82-9	Eastham	Nauset Harbor - North of Interchange 13
SS82-10	Eastham	Nauset Harbor - Mouth of Salt Pond
SS82-11	Eastham	Nauset Harbor - Center of Salt Pond
SS82-12	Eastham	Nauset Harbor - Nauset Bay
SS82-13	Eastham	Nauset Harbor - Nauset Beach Lighthouse
SS83-1	Chatham	Chatham Harbor - At Toms Neck
SS83-2	Chatham	Chatham Harbor - Northeast of Chatham Lighthouse
SS83-3	Chatham	Chatham Harbor - Aunt Lydia's Cove
SS83-4	Chatham	Chatham Harbor - South of Strong Island
SS83-5	Chatham	Chatham Harbor - Bassing Harbor Entrance
SS83-6	Chatham	Chatham Harbor - Ryder Cove Entrance
SS83-7	Chatham	Chatham Harbor - Ryder Cove - Opposite Radio Tower
SS83-8	Chatham	Chatham Harbor - Ryder Cove - Middle of Cove
SS83-9	Chatham	Chatham Harbor - Crows Pond Entrance
SS83-10	Chatham	Chatham Harbor - Crows Pond - Middle of Pond
SS83-11	Chatham	Chatham Harbor - Pleasant Bay - North of Nickersons Neck
SS83-12	Chatham	Chatham Harbor - Pleasant Bay - Chatham Yacht Club
SS83-13	Chatham	Chatham Harbor - Pleasant Bay - Muddy Creek at Route 28
SS83-14	Harwich	Chatham Harbor - Pleasant Bay - Round Cove
SS83-15	Orleans	Chatham Harbor - Pleasant Bay - Southwest of Quanset Pond
SS83-16	Orleans	Chatham Harbor - West of Sipson Island, Opposite Bogs

TABLE 2 (CONTINUED)

SAMPLE NUMBER	MUNICIPALITY	LOCATION
SS83-17	Orleans	Chatham Harbor - Little Pleasant Bay - North of Sipson Island at the Narrows
SS83-18	Orleans	Chatham Harbor - Little Pleasant Bay - off Namequoit Point
SS83-19	Orleans	Chatham Harbor - Little Pleasant Bay - Channel Entrance between Sampson Island and Barley Neck
SS83-20	Orleans	Chatham Harbor - Little Pleasant Bay - 100 yds. Upstream near Housing
SS83-21	Orleans	Chatham Harbor - Little Pleasant Bay - Mouth of Namequoit River
SS83-22	Orleans	Chatham Harbor - Little Pleasant Bay - Mouth of Frostfish Cove
SS83-23	Orleans	Chatham Harbor - Little Pleasant Bay - In Kescayo Gansett Pond
SS83-24	Orleans	Chatham Harbor - Little Pleasant Bay - Channel at Lucy Point
SS83-25	Orleans	Chatham Harbor - Meeting House Pond - Center of Pond
SS83A-1	Chatham	Frostfish Creek - At Mouth
SS83A-2	Chatham	Frostfish Creek - Midway to Route 28
SS83A-3	Chatham	Frostfish Creek - At Route 28
SS84-1	Chatham	Stage Harbor - Harding Beach
SS84-2	Chatham	Stage Harbor - Pond North of Beach
SS84-3	Chatham	Stage Harbor - Entrance to Stage Harbor
SS84-4	Chatham	Stage Harbor - Oyster Pond River Entrance
SS84-5	Chatham	Stage Harbor - Opposite Co-op
SS84-6	Chatham	Stage Harbor - Entrance to Stetson Cove
SS84-7	Chatham	Stage Harbor - Center of Oyster Pond
SS84-8	Chatham	Stage Harbor - Mitchell River Entrance

TABLE 2 (CONTINUED)

SAMPLE NUMBER	MUNICIPALITY	LOCATION
SS84-9	Chatham	Stage Harbor - At Bridge Street
SS84-10	Chatham	Stage Harbor - Center of Mill Pond
SS84-11	Chatham	Stage Harbor - Center of Little Mill Pond
SS85-1	Chatham	Buck Creek - Outlet Taylors Pond
SS85-2	Chatham	Buck Creek - Cockle Cove Road
SS85-3	Chatham	Buck Creek - Route 28
SS86-1	Harwich	Red River - On Beach
SS86-2	Harwich	Red River - South Chatham Road
SS86A-1	Harwich	Wychmere Harbor - On West Beach
SS86A-2	Harwich	Wychmere Harbor - Entrance to Harbor
SS86A-3	Harwich	Wychmere Harbor - Inner Harbor - South
SS86A-4	Harwich	Wychmere Harbor - Inner Harbor - North
SS86B-1	Harwich	Allens Harbor - Entrance to Harbor
SS86B-2	Harwich	Allens Harbor - Inner Harbor West Shore
SS86B-3	Harwich	Allens Harbor - Off North Cove
SS87-1	Dennis	Herring River - On Beach
SS87-2	Dennis	Herring River - Lower County Road
SS87-3	Dennis	Herring River - Upper County Road
SS88-1	Dennis	Swan Pond River - Lower County Road
SS88-2	Dennis	Swan Pond River - Route 28
SS89-1	Yarmouth	Bass River - Mouth of River off South Street
SS89-2	Yarmouth	Bass River - Route 28 Bridge
SS89-3	Yarmouth	Bass River - Highbank Road Bridge

TABLE 2 (CONTINUED)

SAMPLE NUMBER	MUNICIPALITY	LOCATION
SS89-4	Yarmouth	Bass River - Route 6 Bridge
SS89-5	Yarmouth	Bass River - Dinahs Pond North
SS89-6	Yarmouth	Bass River - Dinahs Pond South
SS89-7	Dennis	Bass River - Ware Creek - Lower County Road
SS89-8	Dennis	Bass River - Davis Beach
SS89-9	Dennis	Bass River - Davis Beach
SS90-1	Yarmouth	Parkers River - Mouth of River at Sea Gull Beach
SS90-2	Yarmouth	Parkers River - At Route 28
SS91-1	Yarmouth	Lewis Bay - Entrance to Hyannis Inner Harbor
SS91-2	Yarmouth	Lewis Bay - Southeast of Hyannis Park
SS91-3	Yarmouth	Lewis Bay - Easternmost Cove of Lewis Bay
SS91-4	Yarmouth	Lewis Bay - Outlet Mill Pond at Route 28
SS91A-1	Barnstable	Lewis Bay - East of Dunbar Street
SS91A-2	Barnstable	Lewis Bay - Veterans Memorial Park
SS91A-3	Barnstable	Lewis Bay - Entrance to Hyannis Inner Harbor
SS91A-4	Barnstable	Lewis Bay - At Ferry Dock
SS91A-5	Barnstable	Lewis Bay - Cove North of Dock
SS91A-6	Barnstable	Lewis Bay - At the Narrows
SS91A-7	Barnstable	Lewis Bay - Northernmost Part of Eastern Cove
SS91A-8	Barnstable	Lewis Bay - Southeast of SS91A-7
SS92-1	Barnstable	Hyannis Harbor - Ocean Avenue Bridge
SS92-2	Barnstable	Hyannis Harbor - Keyes Memorial Beach
SS93-1	Barnstable	Centerville Harbor - Bumps River - Main South County Road

TABLE 2 (CONTINUED)

SAMPLE NUMBER	MUNICIPALITY	LOCATION
SS93-2	Barnstable	Centerville Harbor - Centerville River - Craigville Beach Road
SS93-3	Barnstable	Centerville Harbor - On Craigville Beach
SS93-4	Barnstable	Centerville Harbor - Outlet of Simmons Pond Craigville Beach Road
SS94-1	Barnstable	Cotuit Bay - Entrance to Cotuit Bay
SS94-2	Barnstable	Cotuit Bay - Entrance to Seapit River
SS94-3	Barnstable	Cotuit Bay - West of Tims Point
SS94-4	Barnstable	Cotuit Bay - North Bay - West of Pine Island
SS94-5	Barnstable	Cotuit Bay - North Bay - North of Little Island
SS94-6	Barnstable	Cotuit Bay - Marston Mill River
SS94-7	Barnstable	Cotuit Bay - Bridge Street at Little Island
SS94-8	Barnstable	Cotuit Bay - Seaview Avenue on Beach
SS95-1	Mashpee	Popponesset Bay - Popponesset Beach
SS95-2	Mashpee	Popponesset Bay - Road to Popponesset Island
SS95-3	Mashpee	Popponesset Bay - Entrance to Popponesset Bay
SS95-4	Mashpee	Popponesset Bay - Mouth of Mashpee River
SS95-5	Mashpee	Popponesset Bay - Mashpee River at Route 28
SS95-6	Mashpee	Popponesset Bay - West of Ryefield Point
SS95-7	Mashpee	Popponesset Bay - Quaker Run at Quinaquisset Avenue
SS95-8	Mashpee	Popponesset Bay - Santuit River at Quinaquisset Avenue
SS95-9	Barnstable	Popponesset Bay - Pinquickset Cove
SS96-1	Falmouth	Waquoit Bay - Entrance to Bay
SS96-2	Falmouth	Waquoit Bay - Cove off Washburn Island Eastern Shore

TABLE 2 (CONTINUED)

SAMPLE NUMBER	MUNICIPALITY	LOCATION
SS96-3	Falmouth	Waquoit Bay - Northernmost Cove
SS96-4	Falmouth	Waquoit Bay - Entrance to Quashnet River
SS96-5	Falmouth	Waquoit Bay - Quashnet River at Route 28
SS96-6	Mashpee	Waquoit Bay - Entrance to Sage Lot Pond
SS96-7	Mashpee	Waquoit Bay - West Shore of Seconsett Island
SS96-8	Mashpee	Waquoit Bay - Monomoscoy Road - Hamblin Road
SS96-9	Mashpee	Waquoit Bay - Monomoscoy Road - Great River
SS97-1	Falmouth	Eel Pond - At Entrance
SS97-2	Falmouth	Eel Pond - Entrance to Western Pond
SS97-3	Falmouth	Eel Pond - Entrance to Unnamed Tributary on Northwest
SS97-4	Falmouth	Eel Pond - Entrance to Unnamed Tributary on Northeast
SS97-5	Falmouth	Eel Pond - Western Shore of Washburn Island
SS97-6	Falmouth	Eel Pond - Entrance to Seapit River
SS97-7	Falmouth	Eel Pond - Childs River - 1000 yds. North of Confluence with Seapit River
SS97-8	Falmouth	Eel Pond - Childs River at Route 28
SS98-1	Falmouth	Bournes Pond - Menauhant Road
SS98-2	Falmouth	Bournes Pond - Israels Cove
SS98-3	Falmouth	Bournes Pond - Entrance to Channel on Right
SS98-4	Falmouth	Bournes Pond - 1000 yds. North
SS98-5	Falmouth	Bournes Pond - Point where Pond Narrows
SS98-6	Falmouth	Bournes Pond - At Route 28
SS99-1	Falmouth	Green Pond - Between Entrance Jetties

TABLE 2 (CONTINUED)

SAMPLE NUMBER	MUNICIPALITY	LOCATION
SS99-2	Falmouth	Green Pond - Menauhant Road
SS99-3	Falmouth	Green Pond - Opposite School
SS99-4	Falmouth	Green Pond - 1000 yds. North
SS99-5	Falmouth	Green Pond - At the Narrows
SS99-6	Falmouth	Green Pond - At Route 28
SS100-1	Falmouth	Great Pond - Ocean Avenue Bridge
SS100-2	Falmouth	Great Pond - On Beach
SS100-3	Falmouth	Great Pond - Eastern Shore of Acapesket
SS100-4	Falmouth	Great Pond - Western Shore - Palm Street
SS100-5	Falmouth	Great Pond - Northeast of Boat Ramp
SS100-6	Falmouth	Great Pond - Northern Shore of Perch Pond
SS100-7	Falmouth	Great Pond - Southeast of Gravel Pit
SS100-8	Falmouth	Great Pond - Coonamesset River at Route 28
SS101-1	Falmouth	Little Pond - Ocean Avenue Bridge
SS101-2	Falmouth	Little Pond - On Beach
SS101-3	Falmouth	Little Pond - Western Cove
SS101-4	Falmouth	Little Pond - Midway of Little Pond
SS101-5	Falmouth	Little Pond - Northernmost End
SS102-1	Falmouth	Falmouth Inner Harbor - Midway Between Entrance Jetties
SS102-2	Falmouth	Falmouth Inner Harbor - Center of Harbor Prior to Main Boating Facilities
SS102-3	Falmouth	Falmouth Inner Harbor - Fueling Docks on West Bank
SS102-4	Falmouth	Falmouth Inner Harbor - Dock of the Island Queen Ferry

TABLE 2 (CONTINUED)

SAMPLE NUMBER	MUNICIPALITY	LOCATION
SS102-5	Falmouth	Falmouth Inner Harbor - Northernmost End
SS102A-1	Falmouth	Siders Pond - Surf Road
SS102A-2	Falmouth	Siders Pond - Outlet at Siders Pond
SS102A-3	Falmouth	Siders Pond - Back of Town Hall
SS102A-4	Falmouth	Siders Pond - Falmouth Beach
SS103-1	Falmouth	Salt Pond - Beach Road - Outlet
SS103-2	Falmouth	Salt Pond - South East Cove
SS103-3	Falmouth	Salt Pond - Northern Cove
SS103-4	Falmouth	Salt Pond - Falmouth Beach
SS104-1	Falmouth	Oyster Pond - Beach Road
SS104-2	Falmouth	Oyster Pond - Cove East Shore
SS104-3	Falmouth	Oyster Pond - Northernmost Cove
SS105-1	Falmouth	Little Harbor - Off Coast Guard Dock
SS105-2	Falmouth	Little Harbor - Nobska Beach
SS106-1	Falmouth	Great Harbor - Penzance Beach on Bigelow Road - North
SS106-2	Falmouth	Great Harbor - North of Ram Island
SS106-3	Falmouth	Great Harbor - Northwest Cove
SS106-4	Falmouth	Great Harbor - At Lighthouse
SS106-5	Falmouth	Great Harbor - Off WHOI
SS106-6	Falmouth	Great Harbor - Toward Juniper Point
SS107-1	Falmouth	Eel Pond - Eel Pond Bridge
SS107-2	Falmouth	Eel Pond - West
SS107-3	Falmouth	Eel Pond - North

TABLE 2 (CONTINUED)

SAMPLE NUMBER	MUNICIPALITY	LOCATION
SS107-4	Falmouth	Eel Pond - East
SS107-5	Falmouth	Eel Pond - South
SS108-1	Falmouth	Quisset Harbor - Oyster Pond Road
SS109-1	Falmouth	Sippewisset - At Mouth of Little Sippewisset
SS109-2	Falmouth	Sippewisset - Wood Neck Road at Beach
SS110-1	Falmouth	West Falmouth Harbor - Snug Harbor at Nashawena Road
SS110-2	Falmouth	West Falmouth Harbor - Off Nanamesset Road
SS110-3	Falmouth	West Falmouth Harbor - At Chappaquoit Road Bridge
SS110-4	Falmouth	West Falmouth Harbor - At Chappaquoit Road Beach
SS110-5	Falmouth	West Falmouth Harbor - Entrance of West Falmouth Harbor, Chappaquoit Point
SS111-1	Falmouth	Herring Brook - Old Silver Beach Road
SS111-2	Falmouth	Herring Brook - Mouth of Herring Brook
SS112-1	Falmouth	Wild Harbor - Northernmost Cove At Housing Development
SS112-2	Falmouth	Wild Harbor - South at Dike
SS112-3	Falmouth	Wild Harbor - Tributary to Wild Harbor River off Chester Street
SS113-1	Bourne	Megansett Harbor - Off Eustis Beach - North
SS113-2	Bourne	Megansett Harbor - Off Eustis Beach - South
SS113-3	Bourne	Megansett Harbor - Squeteague Harbor
SS113-4	Bourne	Megansett Harbor - Bridge to Amarita Island
SS113-5	Falmouth	Megansett Harbor - Entrance to Squeteague Harbor
SS113-6	Falmouth	Megansett Harbor - Mouth of Rands Harbor

TABLE 2 (CONTINUED)

SAMPLE NUMBER	MUNICIPALITY	LOCATION
SS113-7	Falmouth	Megansett Harbor - Outlet of Cedar Lake, Rands Harbor
SS114-1	Bourne	Red Brook Harbor - Off Handy Point
SS114-2	Bourne	Red Brook Harbor - At Entrance to Red Brook Pond
SS114-3	Bourne	Red Brook Harbor - At Southeast Cove in Red Brook Harbor
SS114-4	Bourne	Red Brook Harbor - At Hospital Cove, Easternmost Cove
SS114-5	Bourne	Red Brook Harbor - At Hospital Cove off Merriman Beach
SS115-1	Bourne	Pocasset Harbor - At Entrance to Pocasset Harbor
SS115-2	Bourne	Pocasset Harbor - Southwest of Barlows Landing
SS115-3	Bourne	Pocasset Harbor - At Barlows Landing
SS115-4	Bourne	Pocasset Harbor - At Patuisset
SS115-5	Bourne	Pocasset Harbor - At Entrance to Hen Cove
SS116-1	Bourne	Phinneys Harbor - At Rocky Point Dike - South
SS116-2	Bourne	Phinneys Harbor - Back River, Shore Drive Bridge
SS116-3	Bourne	Phinney Harbor - At Monument Beach
SS116-4	Bourne	Phinney Harbor - At Monument Beach
SS116-5	Bourne	Phinney Harbor - At Toby's Island, Shellfish Seed Area
SS116-6	Bourne	Phinney Harbor - At Entrance to Pocasset River
SS116-7	Bourne	Phinney Harbor - Pocasset River, Shore Road Bridge
SS116A-1	Bourne	Cape Cod Canal - At Sagamore Bridge
SS116A-2	Bourne	Cape Cod Canal - At Massachusetts Maritime Academy
SS116A-3	Bourne	Mooring Basin - At Rocky Point Dike - North

TABLE 3

CAPE COD 1976 SURVEY

DISSOLVED OXYGEN DATA

Station	SS64A-1	SS64A-2	SS64A-4	SS64A-4	SS65-1	SS66-1	SS66-2	SS67-1
Date	6/8	6/8	6/8	6/8	7/22	7/22	7/22	7/22
Time	1350	1355	1405	1440	1535	1530	1525	1510
Temp.	* 58°	57°	57°	57°	78°	74°	64°	69°
D.O.	** 9.3	9.4	9.8	9.2	8.7	4.9	7.8	6.9
Depth	5'	9'	5'	5'	-	-	-	-

Station	SS67-2	SS68-1	SS68-2	SS68-3	SS69-1	SS69-2	SS69-3	SS69-4
Date	7/22	7/22	7/22	7/22	7/22	7/22	7/22	7/22
Time	1500	1445	1435	1415	1615	1325	1340	1355
Temp.	80°	72°	71°	68°	64°	63°	64°	67°
D.O.	10.9	9.8	9.2	8.3	6.2	8.2	8.1	7.7
Depth	-	-	-	-	-	-	-	-

Station	SS69-5	SS69-6	SS69-7	SS69-8	SS69-9	SS69-10	SS70-1	SS70-2
Date	7/22	7/22	7/22	7/22	7/22	7/22	7/21	7/21
Time	1415	1423	1425	1325	1400	1315	1445	1435
Temp.	67°	67°	68°	64°	74°	75°	72°	72°
D.O.	6.8	4.7	7.5	7.9	7.4	10.4	6.5	7.5
Depth	-	-	-	-	-	-	-	-

Station	SS71-1	SS71-2	SS71-3	SS72-1	SS72-2	SS72-3	SS72-4	SS72-5
Date	7/21	7/21	7/21	7/21	7/21	7/21	7/21	7/21
Time	1410	1400	1355	1345	1320	1310	1305	1325
Temp.	71°	70°	70°	70°	73°	71°	71°	75°
D.O.	7.8	7.2	9.7	7.5	10.5	7.5	8.9	7.0
Depth	-	-	-	-	-	-	-	-

Station	SS73-1	SS74-1	SS75-1	SS75-2	SS76-1	SS77-1	SS77-2	SS77-3
Date	8/31	8/31	8/31	8/31	8/31	8/31	8/31	8/31
Time	1215	1140	1130	1120	1110	1040	1100	0925
Temp.	68°	60°	60°	64°	58°	58°	59°	58°
D.O.	10.4	5.3	5.5	6.4	3.7	10.4	3.5	8.3
Depth	-	-	-	-	-	-	-	-

Station	SS77-4	SS78-1	SS78-2	SS78-3	SS78-4	SS78-5	SS78-6	SS78-7
Date	8/31	9/1	9/1	9/1	9/1	9/1	9/1	9/1
Time	0900	1305	1140	1225	1230	1240	1043	1040
Temp.	55°	75°	62°	70°	73°	71°	64°	64°
D.O.	7.9	7.0	7.3	6.8	7.5	9.8	6.6	6.5
Depth	-	-	-	-	-	-	Surface	Surface

* Temperature (°F)
** Dissolved Oxygen (mg/l)

TABLE 3 (CONTINUED)

Station	SS78-8	SS78-9	SS78-10	SS78-11	SS79-1	SS79-2	SS79-3	SS80-1
Date	9/1	9/1	9/1	9/1	9/1	9/1	9/1	8/31
Time	1035	1215	1050	1105	1100	1110	1120	0835
Temp.	64°	74°	63°	65°	68°	66°	66°	58°
D.O.	6.6	8.3	7.4	7.7	8.5	7.1	7.9	-
Depth	Surface	-	5.0'	1.0'	Surface	Surface	Surface	Surface

Station	SS80-2	SS80-3	SS80-4	SS80-5	SS80-6	SS80-7	SS80-8	SS80-9
Date	8/31	8/31	8/31	8/31	8/31	8/31	8/31	8/31
Time	0850	0910	0930	0945	1000	1010	1020	1025
Temp.	56°	55°	59°	54°	56°	52°	59°	57°
D.O.	6.8	8.2	10.5	7.3	8.7	4.0	6.9	9.8
Depth	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface

Station	SS80-10	SS80-11	SS80-12	SS80-13	SS80-14	SS80-15	SS80-16	SS80-16A
Date	8/31	8/31	8/31	8/31	8/31	8/31	8/31	8/31
Time	1045	1100	1115	1130	1005	1015	1017	1020
Temp.	60°	59°	56°	62°	53°	53°	52°	-
D.O.	11.4	7.7	8.1	6.8	7.8	6.0	5.6	5.7
Depth	Surface	Surface	Surface	Surface	3'	3'	2'	3'

Station	SS80-17	SS80-18	SS80-19	SS80-20	SS80-21	SS80-22	SS82-1	SS82-2
Date	8/31	8/31	8/31	8/31	8/31	8/31	9/1	9/1
Time	1030	1035	0940	0950	0915	0930	1118	1125
Temp.	53°	54°	58°	-	55°	58°	65°	65°
D.O.	6.0	5.9	7.9	8.0	7.0	7.2	7.6	7.7
Depth	7'	5'	9'	15'	25'	30'	6.0'	Surface

Station	SS82-3	SS82-4	SS82-5	SS82-6	SS82-7	SS82-8	SS82-9	SS82-10
Date	9/1	9/1	9/1	9/1	9/1	9/1	9/1	9/1
Time	1045	1034	1015	1010	1005	1215	1025	1155
Temp.	64°	66°	66°	65°	65°	67°	66°	67°
D.O.	7.7	8.0	7.3	7.1	7.1	7.5	8.2	8.3
Depth	3.0'	3.5'	5.0'	6.5'	5.5'	6.0'	2.5'	Surface

Station	SS82-11	SS82-12	SS82-13	SS83-1	SS83-2	SS83-3	SS83-4	SS83-5
Date	9/1	9/1	8/31	8/31	8/31	8/31	8/31	8/31
Time	1245	1300	0955	1230	1245	1255	1315	1321
Temp.	69°	72°	59°	62°	66°	68°	69°	70°
D.O.	9.1	8.3	7.9	7.6	8.1	8.5	9.1	7.8
Depth	Surface	Surface	Surface	2'	6'	3'	6.0'	2.0'

Station	SS83-6	SS83-7	SS83-8	SS83-9	SS83-10	SS83-11	SS83-12	SS83-13
Date	8/31	8/31	8/31	8/31	8/31	8/31	8/31	8/31
Time	1425	1432	1445	1405	1415	1330	1335	1300
Temp.	69°	68°	70°	71°	69°	69°	68°	67°
D.O.	9.2	8.08	8.9	8.5	7.9	7.9	7.6	10.5
Depth	3.0'	4.0'	3.0'	4.0'	8.0'	2.0'	6.0'	Surface

TABLE 3 (CONTINUED)

Station	SS83-14	SS83-15	SS83-16	SS83-17	SS83-18	SS83-19	SS83-20	SS83-21
Date	8/31	8/31	8/31	8/31	8/31	8/31	8/31	8/31
Time	1350	1240	1255	1305	1315	1425	1435	1325
Temp.	70°	70°	69°	66°	70°	68°	70°	70°
D.O.	7.2	6.7	7.0	6.9	6.8	6.7	7.0	8.0
Depth	3.0'	6.0'	6.0'	4.0'	3.0'	2.0'	Surface	Surface

Station	SS83-22	SS83-23	SS83-24	SS83-25	SS83A-1	SS83A-2	SS83A-3	SS84-1
Date	8/31	8/31	8/31	8/31	9/1	9/1	8/31	7/20
Time	1335	1340	1355	1400	1425	1435	1310	1310
Temp.	72°	74°	72°	70°	74°	74°	67°	80°
D.O.	7.9	7.7	9.2	8.8	10.2	9.1	9.6	7.2
Depth	2.0'	Surface	2.0'	5.0'	Surface	Surface	Surface	-

Station	SS84-2	SS84-3	SS84-4	SS84-5	SS84-6	SS84-7	SS84-8	SS84-9
Date	7/20	7/21	7/21	7/21	7/21	7/21	7/21	7/21
Time	1318	1430	1435	1450	1500	1510	1420	1410
Temp.	83°	68°	69°	69°	70°	70°	70°	70°
D.O.	9.7	6.5	6.6	6.8	6.6	7.0	6.8	6.3
Depth	-	3.5'	-	-	4'	3'	3'	4'

Station	SS84-10	SS84-11	SS85-1	SS85-2	SS85-3	SS86-1	SS86-2	SS86A-1
Date	7/21	7/21	7/20	7/20	7/20	7/20	7/20	7/22
Time	1400	1350	1230	1245	1300	1200	1207	1435
Temp.	70°	70°	78°	83°	94°	76°	65°	74°
D.O.	7.1	8.0	7.7	10.5	0.0	7.8	7.7	10.8
Depth	10'	4'	-	-	-	-	-	-

Station	SS86A-2	SS86A-3	SS86A-4	SS86B-1	SS86B-2	SS86B-3	SS87-1	SS87-2
Date	7/22	7/22	7/22	7/22	7/22	7/22	7/20	7/20
Time	1445	1515	1455	1420	1405	1400	1350	1355
Temp.	70°	72°	72°	72°	72°	74°	79°	78°
D.O.	6.2	7.0	7.5	8.3	5.2	5.7	9.0	7.6
Depth	-	-	-	-	-	-	-	-

Station	SS87-3	SS88-1	SS88-2	SS89-1	SS89-2	SS89-3	SS89-4	SS89-5
Date	7/20	7/20	7/20	7/19	7/19	7/19	7/19	7/20
Time	1400	1419	1500	1400	1410	1425	1430	1525
Temp.	79°	78°	80°	79°	77°	79°	80°	82°
D.O.	7.0	7.2	6.8	7.8	8.4	8.4	8.4	8.6
Depth	-	-	-	-	-	-	-	-

Station	SS89-6	SS89-7	SS89-8	SS89-9	SS90-1	SS90-2	SS91-1	SS91-2
Date	7/20	7/20	7/20	7/20	7/19	7/19	7/21	7/21
Time	1530	1445	1410	1426	1350	1340	1415	1425
Temp.	91°	86°	79°	79°	79°	80°	74°	73°
D.O.	17.3	4.0	8.2	8.0	7.8	8.1	7.4	7.2
Depth	-	-	-	-	-	-	-	-

TABLE 3 (CONTINUED)

Station	SS91-3	SS91-4	SS91A-1	SS91A-2	SS91A-3	SS91A-4	SS91A-5	SS91A-6
Date	7/21	7/19	7/21	7/21	7/21	7/21	7/21	7/21
Time	1435	1330	1450	1500	1400	1330	1310	1340
Temp.	72°	74°	72°	73°	74°	74°	74°	74°
D.O.	6.9	7.5	7.1	6.9	7.1	6.3	6.5	6.6
Depth	-	-	-	-	-	-	-	-

Station	SS91A-7	SS91A-8	SS92-1	SS92-2	SS93-1	SS93-2	SS93-3	SS93-4
Date	7/21	7/21	7/19	7/19	7/20	7/20	7/20	7/20
Time	1348	1354	1310	1310	1320	1330	1335	1350
Temp.	74°	74°	86°	79°	81°	80°	78°	80°
D.O.	8.7	6.9	9.9	10.2	10.1	11.8	7.1	6.1
Depth	-	-	-	-	-	-	-	-

Station	SS94-1	SS94-2	SS94-3	SS94-4	SS94-5	SS94-6	SS94-7	SS94-8
Date	7/20	7/20	7/22	7/22	7/22	7/20	7/20	7/20
Time	1545	1550	1435	1420	1410	1405	1255	1310
Temp.	74°	74°	75°	75°	75°	82°	78°	78°
D.O.	7.5	8.0	7.3	6.9	7.5	8.2	8.7	9.3
Depth	-	-	5'	3.5'	4'	-	-	-

Station	SS95-1	SS95-2	SS95-3	SS95-4	SS95-5	SS95-6	SS95-7	SS95-8
Date	7/19	7/19	7/20	7/20	7/19	7/19	7/19	7/20
Time	1300	1320	1420	1450	1330	1500	1335	1240
Temp.	76°	76°	73°	76°	66°	75°	74°	73°
D.O.	9.9	7.2	7.6	10.1	8.4	9.2	10.2	8.9
Depth	-	-	6'	1'	-	1'	-	-

Station	SS95-9	SS96-1	SS96-2	SS96-3	SS96-4	SS96-5	SS96-6	SS96-7
Date	7/20	7/20	7/20	7/20	7/20	7/20	7/20	7/19
Time	1440	1310	1320	1240	1245	1420	1300	1250
Temp.	76°	76°	77°	78°	77°	69°	76°	76°
D.O.	11.8	8.8	9.5	6.7	7.7	8.8	9.2	9.4
Depth	1'	-	-	-	-	-	-	-

Station	SS96-8	SS96-9	SS97-1	SS97-2	SS97-3	SS97-4	SS97-5	SS97-6
Date	7/19	7/19	7/20	7/20	7/20	7/20	7/20	7/20
Time	1240	1245	1220	1130	1140	1150	1205	1210
Temp.	79°	79°	74°	76°	78°	79°	76°	80°
D.O.	8.1	11.2	10.8	6.8	6.9	8.6	7.1	7.3
Depth	-	-	-	-	-	-	-	-

Station	SS97-7	SS97-8	SS98-1	SS98-2	SS98-3	SS98-4	SS98-5	SS98-6
Date	7/20	7/20	7/20	7/21	7/21	7/21	7/21	7/20
Time	1335	1425	1215	1400	1405	1410	1420	1430
Temp.	80°	77°	80°	73°	72°	73°	70°	75°
D.O.	7.6	12.0	9.5	8.7	6.0	7.9	8.3	12.8
Depth	-	-	-	-	-	-	-	-

TABLE 3 (CONTINUED)

Station	SS99-1	SS99-2	SS99-3	SS99-4	SS99-5	SS99-6	SS100-1	SS100-2
Date	7/20	7/20	7/20	7/20	7/20	7/20	7/20	7/20
Time	1210	1205	1245	1240	1230	1435	1155	1155
Temp.	71°	76°	74°	76°	72°	81°	74°	74°
D.O.	8.1	8.2	9.8	8.7	11.3	8.6	8.7	-
Depth	4'	-	2'	3'	1'	-	-	-

Station	SS100-3	SS100-4	SS100-5	SS100-6	SS100-7	SS100-8	SS101-1	SS101-2
Date	7/20	7/20	7/20	7/20	7/20	7/20	7/20	7/20
Time	1200	1150	1140	-	1125	1440	1150	1155
Temp.	70°	74°	72°	74°	72°	75°	76°	74°
D.O.	9.2	7.0	9.2	12.0	9.6	9.2	8.5	8.8
Depth	3'	3'	6'	-	4'	-	-	-

Station	SS101-3	SS101-4	SS101-5	SS102-1	SS012-2	SS102-3	SS012-4	SS102-5
Date	7/20	7/20	7/20	7/21	7/21	7/21	7/21	7/21
Time	1145	1140	1115	1245	1235	1220	1210	1200
Temp.	82°	80°	65°	70°	70°	70°	70°	70°
D.O.	10.5	9.0	-	9.0	6.3	8.6	7.6	8.2
Depth	-	-	-	-	-	-	-	-

Station	SS102-1	SS102-2	SS102-3	SS102-4	SS102-5	SS102A-1	SS102A-2	SS102A-3
Date	6/10	6/10	6/10	6/10	6/10	7/21	7/21	7/21
Time	1245	1250	1300	1305	1310	1325	1120	1130
Temp.	64°	64°	65°	64°	66°	74°	74°	69°
D.O.	8.4	8.5	10.1	9.7	11.1	8.2	8.9	8.5
Depth	-	5'	4'	5'	4'	-	-	-

Station	SS102A-4	SS103-1	SS103-2	SS103-3	SS103-4	SS104-1	SS104-2	SS104-3
Date	7/21	7/21	7/21	7/21	7/21	7/21	7/21	7/21
Time	1330	1055	1102	1112	1100	1040	1050	1030
Temp.	71°	72°	74°	74°	72°	76°	76°	78°
D.O.	7.4	5.6	7.7	7.6	7.2	7.4	7.0	8.6
Depth	-	-	-	-	-	-	-	-

Station	SS105-1	SS105-2	SS106-1	SS106-2	SS106-3	SS106-4	SS106-5	SS106-6
Date	6/10	6/10	6/10	6/9	6/9	6/9	6/9	6/9
Time	1220	1230	1200	1118	1111	1055	1140	1130
Temp.	54°	51°	52°	57°	60°	57°	57°	59°
D.O.	8.8	9.6	8.5	8.3	7.8	8.4	8.4	8.5
Depth	-	-	-	-	-	10'	7'	10'

Station	SS107-1	SS107-2	SS107-3	SS107-4	SS107-5	SS108-1	SS109-1	SS109-2
Date	6/10	6/10	6/10	6/10	5/10	6/10	6/9	6/9
Time	1210	1155	1205	1212	1225	1145	1235	1245
Temp.	53°	59°	59°	58°	67°	57°	62°	56°
D.O.	8.3	8.2	8.3	8.6	8.2	8.7	8.1	9.2
Depth	-	4'	5'	-	-	-	-	-

TABLE 3 (CONTINUED)

Station	SS110-1	SS110-2	SS110-3	SS110-4	SS110-5	SS111-1	SS111-2	SS112-1
Date	6/9	6/9	6/9	6/9	6/9	6/9	6/9	6/9
Time	1155	1200	1205	1215	1225	1135	1140	1100
Temp.	57°	58°	59°	56°	55°	56°	55°	54°
D.O.	12.3	11.2	8.5	8.3	9.7	8.7	8.9	7.5
Depth	-	-	-	-	-	-	-	-

Station	SS112-2	SS112-3	SS113-1	SS113-2	SS113-3	SS113-4	SS113-5	SS113-6
Date	6/9	6/9	6/8	6/8	6/8	6/8	6/9	6/9
Time	1110	1130	1130	1135	1130	1145	1120	1110
Temp.	55°	56°	53°	53°	64°	60°	62°	61°
D.O.	7.6	7.6	8.5	8.6	9.0	11.1	8.9	8.1
Depth	-	-	-	-	5'	-	6'	3'

Station	SS113-7	SS114-1	SS114-2	SS114-3	SS114-4	SS114-5	SS115-1	SS115-2
Date	6/9	6/8	6/8	6/8	6/8	6/8	6/8	6/8
Time	1045	1057	1104	1110	1120	1130	1030	1021
Temp.	59°	63°	63°	64°	60°	62°	62°	63°
D.O.	7.1	8.0	7.6	8.0	7.7	8.5	7.9	8.3
Depth	-	4'	5'	-	6'	-	8'	5'

Station	SS115-3	SS115-4	SS115-5	SS116-1	SS116-2	SS116-3	SS116-4	SS116-5
Date	6/8	6/8	6/8	6/8	6/8	6/8	6/8	6/8
Time	1015	1041	1050	1010	1025	1050	1045	1035
Temp.	62°	62°	63°	53°	52°	60°	53°	57°
D.O.	7.1	8.1	8.0	9.2	7.5	8.4	7.7	7.9
Depth	-	4'	4'	-	-	6'	-	-

Station	SS116-6	SS116-7	SS116A-1	SS116A-2	SS116A-3
Date	6/8	6/8	6/8	6/8	6/8
Time	1105	1115	1330	0945	1000
Temp.	54°	55°	56°	48°	49°
D.O.	7.9	12.0	9.8	7.8	8.2
Depth	-	-	20'	-	-

TABLE 4

CAPE COD 1976 SURVEY

RESULTS OF LABORATORY ANALYSIS [1]

STATION TIME	SS64A-1 1350	SS64A-2 1355	SS64A-3 1405	SS64A-4 1440	SS65-1 1535
BOD_5	1.4	1.0	1.2	0.1	-
pH[2]	8.2	8.3	8.1	8.2	7.0
Total Alkalinity	110	110	108	107	15
Suspended Solids	6.4	4.0	7.0	4.0	4.0
Total Solids	32,900	32,500	33,000	33,900	228
Chlorides	17,500	17,500	17,250	17,000	130
Ammonia-N	0.24	0.30	0.17	0.14	0.08
Nitrate-N	0.0	0.0	0.0	0.0	0.1
Total P	0.02	0.02	0.01	0.01	0.06
Total Coliform[3]	410	10	10	20	4,000
Fecal Coliform[3]	5	5	5	5	250
Turbidity[4]	0	0	1	0	1
Specific Conductivity[5]	40,000	40,000	40,000	41,000	380
Sulfate	2,275	2,575	2,275	2,275	16
Calcium	350	350	320	320	250
Magnesium	1,800	1,800	1,500	1,550	850

[1] Milligrams per liter

[2] Standard Units

[3] Coliform/100ml

[4] NTU

[5] Micromhos/cm

TABLE 4 (CONTINUED)

STATION TIME	SS66-1 1530	SS66-2 1525	SS67-1 1510	SS67-2 1500	SS68-1 1445
BOD_5	-	-	-	-	-
pH	6.7	6.9	8.1	7.9	7.9
Total Alkalinity	31	19	106	71	76
Suspended Solids	6.0	6.5	10	5.0	6.0
Total Solids	120	160	34,160	18,940	22,120
Chlorides	70	50	15,750	15,750	14,250
Ammonia-N	0.19	0.60	0.13	0.10	0.08
Nitrate-N	2.6	0.3	0.0	0.0	0.0
Total P	0.10	0.22	0.09	0.08	0.05
Total Coliform	1,000	270	5	20	10
Fecal Coliform	80	10	< 5	< 5	5
Turbidity	2	1	2	4	1
Specific Conductivity	270	170	37,000	26,000	26,000
Sulfate	16	6.0	2,725	1,375	1,575
Calcium	4.8	10	6.6	265	150
Magnesium	4.5	3.3	1,000	950	550

TABLE 4 (CONTINUED)

STATION TIME	SS68-2 1435	SS68-3 1415	SS69-1 1615	SS69-2 1325	SS69-3 1340
BOD_5	-	-	-	-	-
pH	7.7	7.0	8.0	8.1	8.1
Total Alkalinity	51	20	107	108	107
Suspended Solids	4.0	6.5	5.0	1.5	5.5
Total Solids	11,520	310	32,820	34,780	34,580
Chlorides	6,000	150	17,750	17,750	15,000
Ammonia-N	0.05	0.06	0.15	0.14	0.05
Nitrate-N	0.0	0.1	0.0	0.0	0.0
Total P	0.06	0.13	0.04	0.03	0.04
Total Coliform	350	20	10	5	5
Fecal Coliform	180	< 5	< 5	< 5	< 5
Turbidity	2	3	1	1	1
Specific Conductivity	19,000	900	37,000	38,000	38,000
Sulfate	850	21	2,700	2,800	2,700
Calcium	100	5.0	240	275	250
Magnesium	300	8.5	900	1,000	1,000

TABLE 4 (CONTINUED)

STATION TIME	SS69-4 1355	SS69-5 1415	SS69-6 1423	SS69-7 1425	SS69-8 1325
BOD_5	-	-	-	-	-
pH	8.0	8.1	8.0	7.9	7.0
Total Alkalinity	106	105	103	98	20
Suspended Solids	2.5	1.0	388	8.0	4.5
Total Solids	34,130	34,800	32,810	30,400	216
Chlorides	16,500	17,500	16,500	15,000	80
Ammonia-N	0.02	0.23	0.12	0.09	0.02
Nitrate-N	0.0	0.0	0.0	0.0	0.3
Total P	0.05	0.06	0.09	0.06	0.06
Total Coliform	5	10	100	410	580
Fecal Coliform	<5	<5	60	240	60
Turbidity	1	1	9	2	1
Specific Conductivity	38,000	37,000	37,000	37,000	800
Sulfate	2,575	2,625	2,450	2,300	16
Calcium	265	265	265	240	7.5
Magnesium	1,000	950	940	900	5.0

TABLE 4 (CONTINUED)

STATION TIME	SS69-9 1400	SS69-10 1315	SS70-1 1445	SS70-2 1435	SS71-1 1410
BOD_5	-	-	-	-	-
pH	8.0	8.2	7.7	8.2	8.1
Total Alkalinity	103	103	101	108	105
Suspended Solids	500	8.0	5.0	2.0	9.5
Total Solids	32,570	31,470	28,770	32,940	32,940
Chlorides	16,000	16,250	14,250	16,800	13,000
Ammonia-N	0.14	0.09	0.13	0.09	0.04
Nitrate-N	0.0	0.0	0.0	0.0	0.0
Total P	0.15	0.06	0.07	0.03	0.06
Total Coliform	10	5	2,000	5,000	150
Fecal Coliform	<5	<5	1,000	1,500	<5
Turbidity	15	2	2	1	1
Specific Conductivity	37,000	37,000	36,000	37,000	40,000
Sulfate	2,525	2,425	2,175	2,625	2,575
Calcium	250	245	270	235	250
Magnesium	950	950	1,000	850	950

TABLE 4 (CONTINUED)

STATION TIME	SS71-2 1400	SS71-3 1355	SS72-1 1345	SS72-2 1320	SS72-3 1310
BOD_5	-	-	-	-	-
pH	8.0	7.5	7.1	8.4	7.5
Total Alkalinity	106	14	16	101	32
phth Alkalinity	-	-	-	2.0	-
Suspended Solids	4.5	5.0	10	3.5	4.0
Total Solids	31,940	516	330	31,880	4,230
Chlorides	16,000	230	120	16,500	1,750
Ammonia-N	0.09	0.00	0.07	0.16	0.11
Nitrate-N	0.0	0.0	0.0	0.0	0.0
Total P	0.07	0.19	0.13	0.03	0.16
Total Coliform	170	20,000	900	2,000	30,000
Feacl Coliform	10	300	40	<5	300
Turbidity	1	3	1	1	4
Specific Conductivity	40,000	720	2,000	36,000	7,200
Sulfate	2,525	50	17	2,525	275
Calcium	250	6.0	4.7	275	25
Magnesium	950	15	7.1	1,000	1,000

TABLE 4 (CONTINUED)

STATION TIME	SS72-4 1305	SS72-5 1325	SS73-1 1215	SS74-1 1140	SS75-1 1130
BOD_5	-	-	-	-	-
pH	7.3	7.2	8.2	7.4	7.4
Total Alkalinity	15	11	103	106	107
Suspended Solids	5.5	9.0	9.0	4.0	3.0
Total Solids	132	40	33,620	31,170	28.070
Color [6]	-	-	30	35	25
Chlorides	62	15	12,500	15,250	14,250
Ammonia-N	0.20	0.17	0.24	0.29	0.26
Nitrate-N	0.1	0.0	0.0	0.0	0.0
Total P	0.14	0.07	0.07	0.09	0.11
Total Coliform	9,500	180	<10	100	90
Fecal Coliform	100	30	< 5	10	40
Turbidity	4	8	3	3	4
Specific Conductivity	1,060	1,080	38,000	38,000	39,000
Sulfate	12.0	6.0	2,920	2,060	2,175
Calcium	4.5	2.4	250	250	250
Magnesium	4.2	1.2	1,000	1,000	900

[6] Color Units

TABLE 4 (CONTINUED)

STATION TIME	SS75-2 1120	SS76-1 1110	SS77-1 1040	SS77-2 1100	SS77-3 0925
BOD_5	-	-	-	-	-
pH	7.4	7.3	8.0	6.7	8.1
Total Alkalinity	38	102	104	45	106
Suspended Solids	1.5	2.0	10	6.5	22
Total Solids	9,760	27,040	32,320	10,550	32,060
Color	70	30	15	15	10
Chlorides	5,000	14,250	16,500	5,500	16,500
Ammonia-N	0.11	0.29	0.26	0.45	0.19
Nitrate-N	0.0	0.0	0.0	0.0	0.0
Total P	0.13	0.15	0.07	0.08	0.06
Total Coliform	10	540	< 10	<10	<10
Fecal Coliform	5	380	< 5	< 5	< 5
Turbidity	2	4	2	9	2
Specific Conductivity	16,000	30,000	34,000	18,000	34,000
Sulfate	690	3,200	2,520	800	2,400
Calcium	95	210	240	150	250
Magnesium	300	800	950	350	1,000

TABLE 4 (CONTINUED)

STATION TIME	SS77-4 0900	SS78-1 1305	SS78-2 1140	SS78-3 1225	SS78-4 1230
BOD_5	-	-	-	-	-
pH	8.1	6.8	6.5	7.9	8.2
Total Alkalinity	104	10	9.0	103	99
Suspended Solids	13	9.5	2.0	40	220
Total Solids	32,590	920	96	31,900	32,000
Color	10	35	45	10	15
Chlorides	15,750	12,750	9,000	16,500	16,750
Ammonia-N	0.13	0.04	0.00	0.04	0.10
Nitrate-N	0.0	0.0	0.2	0.0	0.0
Total P	0.05	0.06	0.03	0.26	0.42
Total Coliform	60	<10	500	20	<10
Fecal Coliform	<5	<5	<5	<5	<5
Turbidity	2	1	1	5	4
Specific Conductivity	34,000	1,700	150	37,000	36,000
Sulfate	2,630	62	5.0	2,400	2,460
Calcium	250	10	3.5	250	250
Magnesium	1,000	50	2.5	1,000	1,000

TABLE 4 (CONTINUED)

STATION TIME	SS78-5 1240	SS78-6 1043	SS78-7 1040	SS78-8 1035	SS78-9 1215
BOD_5	-	-	-	-	-
pH	8.0	7.9	8.0	7.9	8.0
Total Alkalinity	64	103	102	101	103
Suspended Solids	19	16	5.0	5.0	12
Total Solids	18,140	31,020	32,290	31,440	25,830
Color	15	15	15	20	20
Chlorides	9,250	16,250	16,000	16,250	13,500
Ammonia-N	0.03	0.02	0.04	0.03	0.04
Nitrate-N	0.0	0.0	0.0	0.0	0.0
Total P	0.10	0.17	0.15	0.13	0.21
Total Coliform	<10	<10	<10	1,200	100
Fecal Coliform	<5	<5	<5	<5	15
Turbidity	5	4	3	4	3
Specific Conductivity	27,000	35,000	37,000	37,000	37,000
Sulfate	1,490	2,230	2,340	2,175	2,340
Calcium	150	250	250	250	250
Magnesium	550	1,000	1,000	1,000	1,000

TABLE 4 (CONTINUED)

STATION TIME	SS78-10 1050	SS78-11 1105	SS79-1 1100	SS79-2 1110	SS79-3 1120
BOD_5	-	-	-	-	-
pH	8.1	8.1	7.7	6.9	6.7
Total Alkalinity	104	101	82	11	10
Suspended Solids	5.0	41	2.0	4.0	5.0
Total Solids	33,680	32,580	23,230	580	940
Color	30	35	15	45	45
Chlorides	16,750	16,500	11,750	300	240
Ammonia-N	0.04	0.38	0.02	0.01	0.02
Nitrate-N	0.0	0.0	0.0	0.0	0.0
Total P	0.09	0.16	0.05	0.06	0.08
Total Coliform	<10	<10	<10	160	300
Fecal Coliform	< 5	<5	5	50	30
Turbidity	2	4	1	3	3
Specific Conductivity	30,000	37,000	30,000	1,000	890
Sulfate	1,660	2,061	1,700	36	39
Calcium	200	250	250	10	100
Magnesium	450	850	1,050	18	20

TABLE 4 (CONTINUED)

STATION TIME	SS80-1 0835	SS80-2 0850	SS80-3 0910	SS80-4 0930	SS80-5 0945
BOD_5	-	-	-	-	-
pH	8.0	8.0	8.0	8.3	8.0
Total Alkalinity	109	111	112	110	109
Suspended Solids	16	2.5	0.5	3.5	3.5
Total Solids	32,080	32,700	32,520	31,970	32,090
Color	15	10	10	20	10
Chlorides	17,000	17,000	17,500	17,000	17,000
Ammonia-N	0.12	0.16	0.10	0.09	0.10
Nitrate-N	0.0	0.0	0.0	0.0	0.0
Total P	0.08	0.05	0.04	0.04	0.06
Total Coliform	<10	<10	<10	700	<10
Fecal Coliform	< 5	< 5	< 5	30	< 5
Turbidity	1	0	0	0	0
Specific Conductivity	37,000	37,000	37,000	37,000	37,000
Sulfate	2,690	2,460	4,800	2,630	2,520
Calcium	280	300	250	270	250
Magnesium	960	1,050	1,000	950	950

TABLE 4 (CONTINUED)

STATION TIME	SS80-6 1000	SS80-7 1010	SS80-8 1020	SS80-9 1025	SS80-10 1045
BOD_5	-	-	-	-	-
pH	8.1	7.7	7.9	8.2	8.3
Total Alkalinity	112	113	113	109	106
Suspended Solids	1.5	2.0	4.5	0.5	6.5
Total Solids	31,960	31,430	37,200	31,340	30,730
Color	15	10	5	10	10
Chlorides	16,000	16,000	17,000	16,000	15,000
Ammonia-N	0.06	0.16	0.06	0.06	0.05
Nitrate-N	0.0	0.0	0.0	0.0	0.0
Total P	0.05	0.07	0.06	0.05	0.05
Total Coliform	<10	<10	80	<10	<10
Fecal Coliform	<5	<5	20	<5	<5
Turbidity	1	1	0	0	0
Specific Conductivity	37,000	37,000	37,000	37,000	37,000
Sulfate	5,150	2,350	2,400	2,350	2,800
Calcium	260	260	250	240	300
Magnesium	1,000	1,000	1,000	950	950

TABLE 4 (CONTINUED)

STATION TIME	SS80-11 1100	SS80-12 1115	SS80-13 1130	SS80-14 1005	SS80-15 1015
BOD_5	-	-	-	-	-
pH	7.8	8.0	7.8	7.9	8.0
Total Alkalinity	111	111	109	110	110
Suspended Solids	1.5	2.0	238	1.0	4.5
Total Solids	31,170	31,680	30,910	32,130	32,850
Color	15	20	25	70	5
Chlorides	17,000	16,500	16,500	17,500	16,500
Ammonia-N	0.05	0.05	0.04	0.11	0.05
Nitrate-N	0.0	0.0	0.3	0.0	0.0
Total P	0.02	0.02	0.07	0.08	0.05
Total Coliform	130	<10	200	<10	10
Fecal Coliform	<5	<5	<5	<5	<5
Turbidity	1	0	3	1	1
Specific Conductivity	37,000	36,000	36,000	36,000	36,000
Sulfate	2,750	2,350	2,750	2,460	2,630
Calcium	300	250	250	300	280
Magnesium	1,050	1,000	1,000	1,050	1,050

TABLE 4 (CONTINUED)

STATION TIME	SS80-16 1017	SS80-16A 0910	SS80-17 1030	SS80-18 1035	SS80-19 0940
BOD_5	-	-	-	-	-
pH	8.0	8.0	7.9	7.9	8.2
Total Alkalinity	110	111	111	109	109
Suspended Solids	2.0	4.5	5.0	3.0	1.5
Total Solids	32,900	33,200	33,200	32,530	32,920
Color	10	15	5	5	10
Chlorides	17,500	17,000	17,500	17,500	17,500
Iron	-	0.85	-	-	-
Ammonia-N	0.05	0.05	0.04	0.04	0.24
Copper	-	0.05	-	-	-
Nitrate-N	0.0	0.0	0.0	0.0	0.0
Zinc	-	0.05	-	-	-
Total P	0.04	0.06	0.06	0.05	0.03
Total Coliform	<10	<10	<10	5	<5
Fecal Coliform	<5	<5	<5	<5	<5
Turbidity	0	2	0	0	0
Specific Conductivity	36,000	36,000	36,000	36,000	36,000
Sulfate	2,630	2,580	2,750	2,750	2,460
Calcium	260	260	250	270	250
Magnesium	1,050	1,050	1,000	1,000	1,100

TABLE 4 (CONTINUED)

STATION TIME	SS80-20 0950	SS80-21 0915	SS80-22 0930	SS82-1 1118	SS82-2 1125
BOD_5	-	-	-	-	-
pH	8.1	7.9	8.0	8.1	8.0
Total Alkalinity	109	111	107	110	104
Suspended Solids	2.0	1.0	1.5	2.0	2.0
Total Solids	32,720	32,160	32,460	32,590	33,620
Color	5	15	5	15	15
Chlorides	17,000	17,500	17,000	17,500	17,250
Ammonia-N	0.18	0.16	0.13	0.03	0.03
Nitrate-N	0.0	0.0	0.0	0.0	0.0
Total P	0.03	0.06	0.04	0.04	0.07
Total Coliform	< 5	<5	<5	< 10	10
Fecal Coliform	< 5	<5	< 5	<5	<5
Turbidity	0	0	0	1	1
Specific Conductivity	36,000	36,000	36,000	37,000	37,000
Sulfate	2,400	2,510	2,350	2,340	2,340
Calcium	250	250	250	250	300
Magnesium	1,050	1,050	1,000	1,050	1,050

TABLE 4 (CONTINUED)

STATION TIME	SS82-3 1045	SS82-4 1034	SS82-5 1015	SS82-6 1010	SS82-7 1005
BOD_5	-	-	-	-	-
pH	8.1	8.1	8.0	8.0	7.9
Total Alkalinity	108	107	105	108	104
Suspended Solids	2.0	2.5	2.5	5.0	5.0
Total Solids	32,660	32,030	32,950	32,100	32,500
Color	15	10	15	15	10
Chlorides	16,750	17,000	16,750	16,750	17,000
Ammonia-N	0.01	0.22	0.04	0.23	0.18
Nitrate-N	0.0	0.0	0.0	0.0	0.0
Total P	0.05	0.04	0.04	0.05	0.06
Total Coliform	< 10	< 10	< 10	< 10	< 10
Fecal Coliform	< 5	< 5	< 5	< 5	< 5
Turbidity	1	1	3	2	1
Specific Conductivity	37,000	37,000	37,000	37,000	38,000
Sulfate	2,460	2,460	2,230	1,770	2,340
Calcium	250	250	250	250	250
Magnesium	1,050	1,050	1,050	1,050	1,050

TABLE 4 (CONTINUED)

STATION TIME	SS82-8 1215	SS82-9 1025	SS82-10 1155	SS82-11 1245	SS82-12 1300
BOD_5	-	-	-	-	-
pH	8.0	8.0	8.1	8.1	7.9
Total Alkalinity	104	105	111	103	112
Suspended Solids	2.0	4.0	1.5	0.5	170
Total Solids	32,910	32,950	33,820	32,600	32,880
Color	10	15	10	-	35
Chlorides	16,750	16,250	16,750	-	17,000
Ammonia-N	0.17	0.17	0.09	0.09	0.07
Nitrate-N	0.0	0.0	0.0	0.0	0.0
Total P	0.07	0.05	0.04	0.06	0.22
Total Coliform	< 10	< 10	< 10	< 10	< 10
Fecal Coliform	< 5	< 5	< 5	< 5	< 5
Turbidity	1	1	1	5	2
Specific Conductivity	37,000	38,000	37,000	37,000	37,000
Sulfate	2,520	2,520	2,230	2,340	1,890
Calcium	250	250	250	250	230
Magnesium	1,050	1,050	1,050	1,050	850

TABLE 4 (CONTINUED)

STATION TIME	SS82-13 0955	SS83-1 1230	SS83-2 1245	SS83-3 1255	SS83-4 1315
BOD_5	-	-	-	-	-
pH	8.1	8.0	8.0	8.0	8.1
Total Alkalinity	106	110	99	103	97
Suspended Solids	5.0	3.0	3.5	2.0	3.0
Total Solids	31,330	31,230	31,760	31,000	30,120
Color	5	-	-	10	15
Chlorides	16,500	17,000	16,000	16,500	16,000
Ammonia-N	0.12	0.16	0.13	0.09	0.08
Nitrate-N	0.0	0.0	0.0	0.0	0.0
Total P	0.02	0.09	0.09	0.06	0.10
Total Coliform	<10	<10	<10	<10	<10
Fecal Coliform	<5	<5	<5	<5	<5
Turbidity	1	1	1	1	1
Specific Conductivity	36,000	36,000	36,000	36,000	36,000
Sulfate	2,520	2,630	2,800	2,690	2,750
Calcium	200	250	250	250	250
Magnesium	950	1,000	1,000	1,000	1,000

TABLE 4 (CONTINUED)

STATION TIME	SS83-5 1321	SS83-6 1425	SS83-7 1432	SS83-8 1445	SS83-9 1405
BOD_5	-	-	-	-	-
pH	8.0	8.1	8.0	8.0	8.1
Total Alkalinity	96	97	96	98	109
Suspended Solids	5.0	5.5	3.5	2.5	4.5
Total Solids	30,310	30,360	29,720	30,580	30,630
Color	10	15	15	10	10
Chlorides	16,500	16,500	16,000	16,000	16,500
Ammonia-N	0.06	0.05	0.05	0.05	0.04
Nitrate-N	0.0	0.0	0.0	0.0	0.0
Total P	0.11	0.12	0.12	0.14	0.12
Total Coliform	<10	<10	<10	<10	<10
Fecal Coliform	<5	<5	<5	<5	<5
Turbidity	2	1	1	1	1
Specific Conductivity	36,000	36,000	36,000	36,000	36,000
Sulfate	2,630	2,630	2,520	2,460	2,630
Calcium	220	250	250	250	250
Magnesium	950	950	1,000	1,000	950

TABLE 4 (CONTINUED)

STATION TIME	SS83-10 1415	SS83-11 1330	SS83-12 1335	SS83-13 1300	SS83-14 1350
BOD_5	-	-	-	-	-
pH	8.0	5.1	8.1	8.4	7.9
Total Alkalinity	97	98	95	56	96
phth Alkalinity	-	-	-	1.0	-
Suspended Solids	3.5	3.5	3.0	7.0	4.0
Total Solids	34,220	30,390	30,880	14,960	29,750
Color	15	15	10	25	10
Chlorides	16,500	16,500	16,500	8,500	16,000
Ammonia-N	0.05	0.07	0.04	0.04	0.04
Nitrate-N	0.0	0.0	0.0	0.0	0.0
Total P	0.11	0.11	0.12	0.15	0.13
Total Coliform	<10	<10	<10	10	<10
Fecal Coliform	<5	<5	<5	<5	<5
Turbidity	1	1	2	1	1
Specific Conductivity	36,000	36,000	36,000	21,000	36,000
Sulfate	2,460	2,520	2,630	1,260	2,630
Calcium	250	250	250	150	170
Magnesium	950	1,000	1,000	500	900

TABLE 4 (CONTINUED)

STATION TIME	SS83-15 1240	SS83-16 1255	SS83-17 1305	SS83-18 1315	SS83-19 1425
BOD_5	-	-	-	-	-
pH	7.9	8.0	7.9	8.0	7.9
Total Alkalinity	97	100	100	97	100
Suspended Solids	9.5	2.5	4.0	5.0	5.0
Total Solids	30,860	30,480	31,460	30,090	31,160
Color	5	15	15	15	25
Chlorides	16,500	16,500	16,500	16,000	17,000
Ammonia-N	0.04	0.04	0.01	0.04	0.04
Nitrate-N	0.0	0.0	0.0	0.0	0.0
Total P	0.11	0.10	0.13	0.16	0.15
Total Coliform	<10	<10	<10	<10	<10
Fecal Coliform	<5	<5	<5	<5	<5
Turbidity	1	1	1	1	2
Specific Conductivity	37,000	37,000	37,000	37,000	37,000
Sulfate	2,630	2,400	2,460	2,350	2,350
Calcium	200	200	150	200	200
Magnesium	1,000	1,000	950	950	950

TABLE 4 (CONTINUED)

STATION TIME	SS83-20 1435	SS83-21 1325	SS83-22 1335	SS83-23 1340	SS83-24 1355
BOD_5	-	-	-	-	-
pH	7.7	8.0	7.9	7.9	7.9
Total Alkalinity	98	93	97	95	92
Suspended Solids	5.0	2.5	31	10	4.0
Total Solids	31,100	28,560	29,680	29,070	28,920
Color	80	5	20	15	15
Chlorides	15,000	14,500	15,500	15,000	14,500
Ammonia-N	0.06	0.04	0.03	0.04	0.02
Nitrate-N	0.0	0.0	0.0	0.0	0.0
Total P	0.17	0.19	0.21	0.21	0.23
Total Coliform	<10	<10	<10	<10	<10
Fecal Coliform	<5	<5	<5	<5	<5
Turbidity	2	1	2	1	1
Specific Conductivity	37,000	37,000	37,000	37,000	37,000
Sulfate	2,520	2,350	2,400	2,230	2,175
Calcium	200	200	200	200	200
Magnesium	900	900	900	900	900

TABLE 4 (CONTINUED)

STATION TIME	SS83-25 1400	SS83A-1 1425	SS83A-2 1435	SS83A-3 1310	SS84-1 1310
BOD_5	-	-	-	-	-
pH	7.9	8.2	8.1	7.9	8.1
Total Alkalintiy	93	85	86	46	106
Suspended Solids	5.5	11	12	9.0	2.0
Total Solids	28,560	27,560	27,910	8,000	31,360
Color	30	15	25	20	-
Chlorides	16,000	14,000	14,750	6,000	11,750
Ammonia-N	0.02	0.05	0.03	0.13	0.09
MBAS	-	-	0.03	-	-
Nitrate-N	0.0	0.0	0.0	0.0	0.0
Total P	0.22	0.14	0.17	0.07	0.06
Total Coliform	< 10	< 10	< 10	5	20
Fecal Coliform	< 5	< 5	< 5	< 5	< 10
Turbidity	1	1	2	2	1
Specific Conductivity	37,000	37,000	34,000	14,000	40,000
Sulfate	2,175	2,340	2,060	400	-
Calcium	200	250	250	100	300
Magnesium	850	1,000	900	300	1,000

TABLE 4 (CONTINUED)

STATION TIME	SS84-2 1318	SS84-3 1430	SS84-4 1435	SS84-5 1450	SS84-6 1500
BOD_5	-	-	-	-	-
pH	8.2	8.0	8.1	8.2	8.1
Total Alkalinity	107	107	107	104	105
Suspended Solids	8.0	3.0	2.0	1.5	2.0
Total Solids	30,940	33,640	33,300	34,030	33,580
Chlorides	14,750	15,750	16,000	16,000	16,000
Ammonia-N	0.08	0.06	0.06	0.08	0.07
Nitrate-N	0.0	0.0	0.0	0.0	0.0
Total P	0.06	0.05	0.05	0.05	0.06
Total Coliform	<10	50	10	1,300	<10
Fecal Coliform	<5	5	<5	<5	<5
Turbidity	2	1	1	1	1
Specific Conductivity	40,000	35,000	35,000	35,000	35,000
Sulfate	-	2,575	2,525	2,450	2,525
Calcium	300	280	275	265	260
Magnesium	1,000	1,150	1,025	1,035	1,025

TABLE 4 (CONTINUED)

STATION TIME	SS84-8 1510	SS84-8 1520	SS84-9 1410	SS84-10 1400	SS84-11 1350
BOD_5	-	-	-	-	-
pH	8.1	8.2	8.0	8.1	8.0
Total Alkalinity	106	107	104	105	105
Suspended Solids	6.5	4.5	4.0	4.5	9.0
Total Solids	33,016	34,140	33,380	33,410	32,380
Chlorides	14,500	16,000	15,250	16,500	15,000
Ammonia-N	0.08	0.07	0.04	0.05	0.07
Nitrate-N	0.0	0.0	0.0	0.0	0.0
Total P	0.06	0.07	0.07	0.06	0.07
Total Coliform	10	60	80	160	20
Fecal Coliform	<5	<5	<5	10	5
Turbidity	1	1	1	1	2
Specific Conductivity	36,000	36,000	36,000	38,000	38,000
Sulfate	2,625	2,750	2,525	2,575	2,450
Calcium	260	260	290	290	300
Magnesium	1,000	1,060	1,050	1,000	1,030

TABLE 4 (CONTINUED)

STATION TIME	SS85-1 1230	SS85-2 1245	SS85-3 1300	SS86-1 1200	SS86-2 1207
COD	-	-	79	-	-
BOD_5	-	-	9.0	-	-
Oil & Grease	-	-	0.6	-	-
pH	8.1	7.7	-	7.4	8.3
Total Alkalinity	103	60	-	51	110
Suspended Solids	5.0	14	-	4.0	8.0
Total Solids	28,880	9,140	262	6,180	31,330
Chlorides	13,250	4,500	-	9,000	15,500
Ammonia-N	0.09	0.07	-	0.16	0.09
Nitrate-N	0.0	0.0	-	0.0	0.0
Total P	0.08	0.11	-	0.19	0.04
Total Coliform	< 10	10	930	< 10	1,300
Fecal Coliform	< 5	10	30	< 5	100
Lead	-	-	0.0	-	-
Turbidity	2	3	-	3	1
Iron	-	-	0.15	-	-
Specific Conductivity	38,000	14,000	-	26,000	41,000
Sulfate	-	-	-	1,425	2,575
Calcium	250	100	-	120	300
Magnesium	950	300	-	460	1,050

TABLE 4 (CONTINUED)

STATION TIME	SS86A-1 1435	SS86A-2 1445	SS86A-3 1515	SS86A-4 1455	SS86B-1 1420
BOD_5	-	-	-	-	-
pH	8.1	7.9	8.0	8.0	8.1
Total Alkalinity	102	109	106	108	106
Suspended Solids	12	15	10	15	20
Total Solids	31,680	33,300	34,100	32,250	33,000
Chlorides	16,500	15,750	16,000	15,500	14,750
Ammonia-N	0.09	0.09	0.12	0.12	0.09
Nitrate-N	0.0	0.0	0.0	0.0	0.0
Total P	0.09	0.10	0.06	0.06	0.07
Total Coliform	20	1,600	20	10	160
Fecal Coliform	10	180	<5	<5	<5
Turbidity	3	2	2	3	3
Specific Conductivity	38,000	38,000	38,000	38,000	38,000
Sulfate	2,225	2,400	2,450	2,525	2,425
Calcium	230	275	260	250	250
Magnesium	850	1,000	1,000	900	950

TABLE 4 (CONTINUED)

STATION TIME	SS86B-2 1405	SS86B-3 1400	SS87-1 1350	SS87-2 1355	SS87-3 1400
BOD_5	-	-	-	-	-
pH	7.9	7.7	8.3	7.7	7.4
Total Alkalinity	103	100	110	75	53
Suspended Solids	10	14	8.0	5.0	5.0
Total Solids	31,900	28,820	31,330	17,690	8,290
Chlorides	15,750	14,750	15,500	8,750	4,250
Ammonia-N	0.22	0.19	0.09	0.02	0.06
Nitrate-N	0.0	0.0	0.0	0.0	0.0
Total P	0.10	0.19	0.4	0.4	0.6
Total Coliform	320	250	10	150	350
Fecal Coliform	30	140	<5	80	180
Turbidity	3	5	1	2	2
Specific Conductivity	37,000	36,000	41,000	26,000	13,000
Sulfate	2,400	2,225	2,575	1,300	575
Calcium	245	215	300	150	110
Magnesium	900	830	1,050	500	260

TABLE 4 (CONTINUED)

STATION TIME	SS88-1 1419	SS88-2 1500	SS89-1 1400	SS89-2 1410	SS89-3 1425
BOD_5	-	-	-	-	-
pH	7.6	7.4	7.7	8.3	8.3
Total Alkalinity	62	51	37	98	91
Suspended Solids	1.5	4.0	10	6.5	4.5
Total Solids	19,680	6,180	3,810	3,570	28,330
Chlorides	9,500	9,000	2,000	14,500	9,500
Ammonia-N	0.22	0.16	0.14	0.08	0.08
Nitrate-N	0.0	0.0	0.2	0.0	0.0
Total P	0.15	0.19	0.07	0.10	0.15
Total Coliform	< 10	< 10	5	320	3,000
Fecal Coliform	< 10	< 10	< 5	< 5	< 10
Turbidity	2	3	2.0	1.0	1.0
Specific Conductivity	27,000	26,000	5,800	36,000	35,000
Sulfate	1,425	1,425	300	2,050	1,775
Calcium	160	120	40	230	200
Magnesium	620	460	1,500	1,500	1,000

TABLE 4 (CONTINUED)

STATION TIME	SS89-4 1430	SS89-5 1525	SS89-6 1530	SS89-7 1445	SS89-8 1410
COD	-	-	-	37	-
BOD_5	-	-	-	3.0	-
pH	8.5	8.1	8.5	6.9	8.2
Total Alkalinity	91	88	75	25	106
phth Alkalinity	5.0	-	6.0	-	-
Suspended Solids	4.0	20	4.0	6.5	4.5
Total Solids	24,520	24,850	21,060	1,500	32,080
Chlorides	12,750	13,000	10,250	850	15,000
Ammonia-N	0.08	0.06	0.03	0.30	0.12
Nitrate-N	0.0	0.0	0.0	0.2	0.0
Total P	0.17	0.19	0.18	0.11	0.05
Total Coliform	620	20	10	930	10
Fecal Coliform	< 5	< 5	10	430	< 5
Turbidity	1.0	2	2	4	1
Specific Conductivity	35,000	34,000	29,000	2,600	40,000
Sulfate	1,825	1,950	1,600	125	2,625
Calcium	210	210	200	17	270
Magnesium	1,200	950	700	50	1,020

TABLE 4 (CONTINUED)

STATION TIME	SS89-9 1426	SS90-1 1350	SS90-2 1340	SS91-1 1415	SS91-2 1425
BOD 5	-	-	-	-	-
pH	8.2	8.3	8.0	8.2	8.2
Total Alkalinity	107	108	97	104	104
Suspended Solids	5.5	8.5	3.5	3.5	7.5
Total Solids	31,140	30,300	25,700	33,080	32,350
Chlorides	15,000	16,250	11,000	15,000	15,750
Ammonia-N	0.08	0.20	0.11	0.06	0.06
Nitrate-N	0.0	0.0	0.0	0.0	0.0
Total P	0.07	0.05	0.12	0.05	0.04
Total Coliform	10	60	200	70	20
Fecal Coliform	5	<5	<5	<5	<5
Turbidity	1	1.0	2.0	1	1
Specific Conductivity	40,000	41,000	36,000	36,000	36,000
Sulfate	2,400	2,350	1,825	2,525	2,575
Calcium	320	230	200	255	270
Magnesium	1,270	1,600	950	1,000	1,030

TABLE 4 (CONTINUED)

STATION TIME	SS91-3 1435	SS91-4 1330	SS91A-1 1450	SS91A-2 1500	SS91A-3 1400
BOD_5	-	-	-	-	-
pH	8.1	6.6	8.2	8.3	8.2
Total Alkalinity	106	8.0	108	106	103
Suspended Solids	8.5	5.5	8.5	6.5	6.5
Total Solids	33,560	104	33,236	33,160	32,452
Chlorides	16,000	26	14,500	15,250	13,250
Ammonia-N	0.06	0.06	0.10	0.04	0.06
Nitrate-N	0.0	0.0	0.0	0.0	0.0
Total P	0.04	0.07	0.04	0.04	0.06
Total Coliform	10	600	10	40	230
Fecal Coliform	< 5	< 5	< 5	< 5	5
Turbidity	1	1.0	1	1	2
Specific Conductivity	36,000	340	35,000	36,000	36,000
Sulfate	2,700	9.0	2,575	2,700	2,525
Calcium	265	2.6	275	275	265
Magnesium	1,000	1.7	1,000	1,050	1,010

TABLE 4 (CONTINUED)

STATION TIME	SS91A-4 1330	SS91A-5 1310	SS91A-6 1340	SS91A-7 1348	SS91A-8 1354
BOD_5	-	-	-	-	-
pH	8.2	8.1	8.1	8.2	8.3
Total Alkalinity	105	102	103	105	107
Suspended Solids	9.5	10	8.0	5.0	4.0
Total Solids	33,804	32,420	32,490	32,890	32,810
Chlorides	16,500	15,750	14,250	16,000	15,500
Ammonia-N	0.06	0.07	0.08	0.11	0.14
Nitrate-N	0.0	0.0	0.0	0.0	0.0
Total P	0.06	0.06	0.05	0.07	0.07
Total Coliform	200	7,000	120	130	70
Fecal Coliform	20	10	5	30	15
Turbidity	2	1	2	2	2
Specific Conductivity	36,000	36,000	36,000	36,000	36,000
Sulfate	2,525	2,425	2,525	2,450	2,450
Calcium	260	250	260	260	265
Magnesium	1,000	950	1,000	1,010	1,025

TABLE 4 (CONTINUED)

STATION TIME	SS92-1 1310	SS92-2 1310	SS93-1 1320	SS93-2 1330	SS93-3 1335
BOD_5	-	-	-	-	-
pH	7.7	8.5	8.1	7.7	8.1
Total Alkalinity	37	105	80	64	106
phth Alkalinity	-	10	-	-	-
Suspended Solids	10	7.0	8.5	20	8.5
Total Solids	3,810	35,170	22,680	13,820	33,700
Chlorides	2,000	15,000	11,000	1,000	16,250
Ammonia-N	0.14	0.31	0.07	0.05	0.09
Nitrate-N	0.2	0.0	0.0	0.0	0.0
Total P	0.07	0.04	0.09	0.17	0.05
Total Coliform	5	30	10	20	200
Fecal Coliform	<5	<5	<10	20	5
Turbidity	2.0	2.0	2	4	2
Specific Conductivity	5,800	41,000	29,000	19,000	41,000
Sulfate	300	2,350	1,600	925	2,525
Calcium	40	230	200	170	220
Magnesium	1,500	1,500	700	670	1,050

TABLE 4 (CONTINUED)

STATION TIME	SS93-4 1350	SS94-1 1545	SS94-2 1550	SS94-3 1435	SS94-4 1420
BOD_5	-	-	-	-	-
pH	7.3	8.1	8.1	8.1	8.1
Total Alkalinity	15	101	101	101	95
Suspended Solids	3.5	5.5	4.5	9.0	6.5
Total Solids	172	33,080	31,160	29,440	28,420
Chlorides	27	11,000	15,000	15,250	14,750
Ammonia-N	0.00	0.08	0.03	0.05	0.04
Nitrate-N	0.1	0.0	0.0	0.0	0.0
Total P	0.01	0.06	0.06	0.07	0.06
Total Coliform	110	80	10	60	10
Fecal Coliform	30	<5	<5	<5	<5
Turbidity	0	1	1	2	2
Specific Conductivity	300	36,000	36,000	36,000	36,000
Sulfate	11	2,425	2,525	2,425	2,175
Calcium	3.4	260	250	245	225
Magnesium	2.8	950	950	900	850

TABLE 4 (CONTINUED)

STATION TIME	SS94-5 1410	SS94-6 1405	SS94-7 1255	SS94-8 1310	SS95-1 1300
BOD_5	-	-	-	-	-
pH	8.1	6.8	8.2	8.5	8.5
Total Alkalinity	93	8.0	95	109	113
phth Alkalinity	-	-	-	4.0	9.0
Suspended Solids	19	4.0	5.5	3.5	14
Total Solids	28,190	144	28,730	33,030	32,620
Chlorides	14,750	12	12,250	16,000	8,750
Ammonia-N	0.17	0.06	0.08	0.12	0.20
Nitrate-N	0.0	0.0	0.0	0.0	0.0
Total P	0.06	0.04	0.05	0.03	0.04
Total Coliform	20	480	1,400	< 10	< 5
Fecal Coliform	< 5	10	60	< 5	< 5
Turbidity	2	1	2	1	1.0
Specific Conductivity	36,000	300	37,000	41,000	39,000
Sulfate	2,150	8.0	2,125	2,450	2,300
Calcium	220	2.7	200	210	230
Magnesium	1,000	1.5	810	990	1,600

TABLE 4 (CONTINUED)

STATION TIME	SS95-2 1320	SS95-3 1420	SS95-4 1450	SS95-5 1330	SS95-6 1500
BOD_5	-	-	-	-	-
pH	8.2	8.4	8.3	6.9	8.4
Total Alkalinity	106	102	58	7.0	88
phth Alkalinity	-	3.0	-	-	2.0
Suspended Solids	9.5	7.0	6.5	6.0	18
Total Solids	31,970	30,940	15,820	26	26,110
Chlorides	16,500	14,750	7,500	13	12,250
Ammonia-N	0.14	0.06	0.08	0.06	0.03
Nitrate-N	0.0	0.0	0.0	0.1	0.0
Total P	0.06	0.05	0.13	0.04	0.11
Total Coliform	< 5	100	10	800	10
Fecal Coliform	< 5	< 5	< 10	10	< 10
Turbidity	1.0	1	3	1.0	3
Specific Conductivity	39,000	39,000	22,000	1,100	33,000
Sulfate	2,425	575	1,150	8.0	2,000
Calcium	230	210	180	2.6	200
Magnesium	1,600	980	500	1.4	800

TABLE 4 (CONTINUED)

STATION TIME	SS95-7 1335	SS95-8 1240	SS95-9 1440	SS96-1 1310	SS96-2 1320
BOD_5	-	-	-	-	-
pH	5.8	6.9	8.5	8.6	8.7
Total Alkalinity	4.0	20	95	106	100
phth Alkalinity	-	-	5.0	8.0	10
Suspended Solids	5.5	5.0	7.5	2.0	2.5
Total Solids	28	2,300	29,400	31,910	29,510
Chlorides	16	1,320	13,250	15,000	16,000
Ammonia-N	0.00	0.02	0.08	0.06	0.08
Nitrate-N	0.0	0.0	0.0	0.0	0.0
Total P	0.02	0.13	0.05	0.04	0.03
Total Coliform	200	<10	10	< 10	<10
Fecal Coliform	10	< 5	< 10	< 5	< 5
Turbidity	0.0	4	1	1	0
Specific Conductivity	125	4,300	37,000	40,000	40,000
Sulfate	6.0	175	2,125	2,325	2,425
Calcium	1.3	22	300	200	210
Magnesium	1.0	100	980	870	1,010

TABLE 4 (CONTINUED)

STATION TIME	SS96-3 1240	SS96-4 1245	SS96-5 1420	SS96-6 1300	SS96-7 1250
BOD_5	-	-	-	-	-
pH	8.5	8.6	6.8	8.7	8.6
Total Alkalinity	91	90	11	104	103
phth Alkalinity	4.0	5.0	-	9.0	7.0
Suspended Solids	4.0	1.5	16	1.0	0.5
Total Solids	29,120	26,760	76	32,330	32,440
Chlorides	11,000	13,500	8.0	16,000	16,000
Ammonia-N	0.05	0.05	0.03	0.10	0.08
Nitrate-N	0.0	0.0	0.0	0.0	0.0
Total P	0.06	0.05	0.11	0.02	0.03
Total Coliform	<10	<10	120	<10	<10
Fecal Coliform	<5	<5	70	<5	<5
Turbidity	1	1	2	0	1
Specific Conductivity	36,000	36,000	310	41,000	37,000
Sulfate	2,175	2,150	8.0	2,575	2,450
Calcium	210	190	2.0	200	190
Magnesium	950	910	1.5	1,000	1,000

TABLE 4 (CONTINUED)

STATION TIME	SS96-8 1240	SS96-9 1245	SS97-1 1220	SS97-2 1130	SS97-3 1140
BOD_5	-	-	-	-	-
pH	8.0	8.6	8.4	8.4	7.8
Total Alkalinity	98	104	120	110	87
phth Alkalinity	-	10	4.0	3.0	-
Suspended Solids	3.0	1.5	4.0	19	8.0
Total Solids	30,700	30,160	34,300	33,200	24,860
Chlorides	15,750	15,500	15,500	15,000	13,000
Ammonia-N	0.31	0.23	0.11	0.00	0.07
Nitrate-N	0.0	0.0	0.0	0.0	0.0
Total P	0.06	0.05	0.04	0.06	0.06
Total Coliform	40	5	10	10	10
Fecal Coliform	5	< 5	5	5	5
Turbidity	1.0	1.0	1	1	2
Specific Conductivity	38,000	38,000	41,000	40,000	33,000
Sulfate	2,400	2,300	2,450	2,400	1,950
Calcium	220	240	220	210	200
Magnesium	1,550	1,500	1,100	1,050	810

TABLE 4 (CONTINUED)

STATION TIME	SS97-4 1150	SS97-5 1205	SS97-6 1210	SS97-7 1335	SS97-8 1425
BOD_5	-	-	-	-	-
pH	8.1	8.5	8.4	8.3	6.7
Total Alkalinity	92	105	95	84	30
phth Alkalinity	-	4.0	3.0	-	-
Suspended Solids	6.5	5.5	3.0	5.5	24
Total Solids	26,260	23,520	31,420	28,580	3,460
Chlorides	12,500	15,500	13,750	12,250	1,970
Ammonia-N	0.01	0.05	0.05	0.01	0.00
Nitrate-N	0.0	0.0	0.0	0.0	0.0
Total P	0.10	0.05	0.07	0.09	0.41
Total Coliform	10	10	10	10	750
Fecal Coliform	5	5	5	5	430
Turbidity	3	1	1	1	2
Specific Conductivity	34,000	40,000	36,000	32,000	5,200
Sulfate	1,950	2,350	2,050	1,950	250
Calcium	200	210	200	190	25
Magnesium	810	950	900	800	140

TABLE 4 (CONTINUED)

STATION TIME	SS98-1 1215	SS98-2 1400	SS98-3 1405	SS98-4 1410	SS98-5 1420
BOD_5	-	-	-	-	-
pH	8.7	8.1	8.1	8.4	7.9
Total Alkalinity	103	101	102	93	40
phth Alkalinity	13	-	-	30	-
Suspended Solids	5.5	8.0	1.0	2.0	3.0
Total Solids	32,840	29,960	27,770	27,990	9,520
Chlorides	15,500	14,500	14,500	13,000	4,500
Ammonia-N	0.11	0.20	0.18	0.18	0.23
Nitrate-N	0.0	0.0	0.0	0.0	0.0
Total P	0.04	0.13	0.06	0.09	0.07
Total Coliform	10	<10	10	<10	20
Fecal Coliform	5	< 5	< 5	< 5	5
Turbidity	1	4	1	2	2
Specific Conductivity	40,000	37,000	37,000	37,000	16,000
Sulfate	2,300	2,175	2,300	2,050	625
Calcium	210	250	225	85	85
Magnesium	1,050	950	850	290	290

TABLE 4 (CONTINUED)

STATION TIME	SS98-6 1430	SS99-1 1210	SS99-2 1205	SS99-3 1245	SS99-4 1240
BOD_5	-	-	-	-	-
pH	6.4	8.4	8.4	8.5	8.3
Total Alkalinity	4.0	108	101	92	91
phth Alkalinity	-	4.0	4.0	5.0	-
Suspended Solids	6.5	5.0	2.5	5.5	7.5
Total Solids	104	33,080	30,740	26,510	24,350
Chlorides	11	15,750	15,250	13,000	9,250
Ammonia-N	0.05	0.07	0.07	0.02	0.05
Nitrate-N	0.0	0.0	0.0	0.0	0.0
Total P	0.02	0.05	0.06	0.06	0.10
Total Coliform	120	10	10	100	10
Fecal Coliform	10	5	5	5	10
Turbidity	2	1	1	1	2
Specific Conductivity	350	41,000	39,000	35,000	33,000
Sulfate	8.0	2,525	2,350	1,950	1,775
Calcium	2.0	260	210	210	200
Magnesium	1.0	1,050	970	820	790

TABLE 4 (CONTINUED)

STATION TIME	SS99-5 1230	SS99-6 1435	SS100-1 1155	SS100-2 1155	SS100-3 1200
BOD_5	-	-	-	-	-
pH	7.2	6.9	8.4	8.5	8.5
Total Alkalinity	20	6.0	105	107	110
phth Alkalinity	-	-	4.0	6.0	5.0
Suspended Solids	5.0	2.0	5.0	3.5	3.5
Total Solids	1,870	36	32,360	33,220	33,550
Chlorides	1,070	15	16,000	12,500	15,750
Ammonia-N	0.17	0.01	0.10	0.08	0.11
Nitrate-N	0.0	0.0	0.01	0.0	0.0
Total P	0.08	0.02	0.04	0.03	0.04
Total Coliform	20	100	< 10	< 10	< 10
Fecal Coliform	20	10	< 5	< 5	< 5
Turbidity	2	1	1	1	1
Specific Conductivity	4,3000	140	40,000	41,000	42,000
Sulfate	150	6.0	2,575	2,575	2,575
Calcium	20	1.5	230	230	230
Magnesium	65	1.0	1,100	1,100	1,100

TABLE 4 (CONTINUED)

STATION TIME	SS100-4 1150	SS100-5 1140	SS100-6 -	SS100-7 1125	SS100-8 1440
BOD_5	-	-	-	-	-
pH	8.4	8.5	8.6	8.0	6.9
Total Alkalinity	102	92	87	42	7.0
phth Alkalinity	4.0	5.0	5.0	-	-
Suspended Solids	4.5	8.0	6.5	7.5	5.5
Total Solids	30,410	27,570	25,180	8,870	20
Chlorides	10,750	13,250	12,000	4,000	11
Ammonia-N	0.06	0.02	0.08	-	0.02
Nitrate-N	0.0	0.0	0.0	0.0	0.1
Total P	0.06	0.06	0.06	0.08	0.03
Total Coliform	10	<10	<10	40	230
Fecal Coliform	<5	<5	<5	5	10
Turbidity	1	2	2	2	1
Specific Conductivity	39,000	36,000	34,000	15,000	350
Sulfate	2,175	1,900	1,900	625	7.0
Calcium	210	210	200	65	2.2
Magnesium	970	880	810	280	1.1

TABLE 4 (CONTINUED)

STATION TIME	SS101-1 1150	SS101-2 1155	SS101-3 1145	SS101-4 1140	SS101-5 1115
BOD_5	-	-	-	-	-
pH	8.4	8.4	8.5	8.5	6.7
Total Alkalinity	103	111	107	98	35
phth Alkalinity	6.0	5.0	4.0	4.0	-
Suspended Solids	5.0	5.0	7.0	6.0	603
Total Solids	30,540	33,070	31,650	28,730	-
Chlorides	11,500	15,000	14,750	13,760	3,500
Ammonia-N	0.22	0.09	0.11	0.08	1.8
Nitrate-N	0.0	0.0	0.0	0.0	0.0
Total P	0.05	0.04	0.09	0.04	0.75
Total Coliform	< 10	10	30	10	430
Fecal Coliform	< 5	5	< 10	< 5	40
Turbidity	2	1	3	1	4
Specific Conductivity	36,000	40,000	40,000	37,000	2,100
Sulfate	2,3000	2,525	2,400	2,175	50
Calcium	210	230	210	210	20
Magnesium	1,000	1,050	1,010	950	32

TABLE 4 (CONTINUED)

July 21, 1976

STATION TIME	SS102-1 1245	SS102-2 1235	SS102-3 1220	SS102-4 1210	SS102-5 1200
BOD_5	-	-	-	-	-
pH	7.9	7.9	7.9	7.7	7.7
Total Alkalinity	108	103	103	100	102
Suspended Solids	3.5	1.5	4.0	6.5	4.5
Total Solids	32,092	30,910	31,540	29,710	29,510
Chlorides	14,250	16,000	14,500	15,000	14,750
Ammonia-N	0.18	0.19	0.16	0.19	0.16
Nitrate-N	0.0	0.0	0.0	0.0	0.0
Total P	0.03	0.05	0.05	0.09	0.09
Total Coliform	80	1,500	140	30	320
Fecal Coliform	5	450	< 5	15	50
Turbidity	1	1	1	3	4
Specific Conductivity	37,000	37,000	37,000	37,000	37,000
Sulfate	2,525	2,400	2,425	2,300	2,225
Calcium	250	250	250	240	240
Magnesium	1,000	950	980	900	900

TABLE 4 (CONTINUED)

June 10, 1976

STATION TIME	SS102-1 1245	SS102-2 1250	SS102-3 1300	SS102-4 1305	SS102-5 1310
BOD_5	1.1	1.9	2.0	2.4	14.4
pH	8.1	8.2	8.2	8.2	8.3
Total Alkalinity	111	110	111	108	105
Suspended Solids	1.5	4.5	4.0	16.5	6.0
Total Solids	32,280	32,160	31,670	30,790	30,200
Chlorides	17,500	17,500	17,500	16,500	16,000
Ammonia-N	0.06	0.05	0.05	0.05	0.05
Nitrate-N	0.0	0.0	0.0	0.0	0.0
Total P	0.03	0.03	0.02	0.04	0.06
Total Coliform	5	< 5	160	360	100
Fecal Coliform	< 2	< 2	< 5	< 5	< 5
Turbidity	1	2	2	3	3
Specific Conductivity	39,000	38,000	38,000	37,000	37,000
Sulfate	2,450	2,400	2,350	2,225	2,175
Calcium	340	320	320	300	390
Magnesium	1,480	1,420	1,410	1,380	1,400

TABLE 4 (CONTINUED)

STATION TIME	SS102A-1 1325	SS012A-2 1120	SS102A-3 1130	SS102A-4 1330	SS103-1 1055
BOD_5	-	-	-	-	-
pH	7.7	8.0	7.0	8.0	7.6
Total Alkalinity	29	31	23	110	81
Suspended Solids	17	2.5	2.0	5.0	3.0
Total Solids	3,290	3,060	900	33,460	23,410
Chlorides	1,500	1,500	490	16,000	11,250
Ammonia-N	0.23	0.36	0.39	0.42	0.25
Nitrate-N	0.1	0.1	0.5	0.0	0.0
Total P	0.06	0.02	0.04	0.03	0.03
Total Coliform	140	130	900	<10	<10
Fecal Coliform	80	30	60	<5	<5
Turbidity	2	1	1	1	1
Specific Conductivity	4,000	5,600	1,800	37,000	34,000
Sulfate	250	200	64	2,000	1,825
Calcium	35	35	20	250	200
Magnesium	100	100	30	1,000	750

TABLE 4 (CONTINUED)

STATION TIME	SS103-2 1102	SS103-3 1112	SS103-4 1100	SS104-1 1040	SS104-2 1050
BOD_5	-	-	-	-	-
pH	8.1	8.1	8.0	8.0	8.2
Total Alkalinity	75	72	112	36	33
Suspended Solids	10	3.0	4.5	7.5	9.0
Total Solids	22,590	21,720	32,780	4,500	4,320
Chlorides	11,250	11,250	15,500	2,250	2,250
Ammonia-N	0.31	0.20	0.18	0.21	0.44
Nitrate-N	0.0	0.0	0.0	0.0	0.0
Total P	0.05	0.03	0.03	0.04	0.03
Total Coliform	120	< 10	< 10	120	90
Fecal Coliform	< 5	< 5	< 5	30	10
Turbidity	1	1	1	4	4
Specific Conductivity	33,000	33,000	37,000	6,600	6,600
Sulfate	1,725	1,575	2,575	325	300
Calcium	190	190	270	50	50
Magnesium	650	650	1,000	125	125

TABLE 4 (CONTINUED)

STATION TIME	SS104-3 1030	SS105-1 1220	SS150-2 1230	SS106-1 1200	SS106-2 1118
BOD_5	-	1.6	0.7	1.4	0.6
pH	7.0	8.2	8.2	8.1	8.1
Total Alkalinity	36	114	110	107	113
Suspended Solids	4.0	1.0	1.5	0.5	0.5
Total Solids	4,150	32,930	33,120	32,890	32,590
Chlorides	1,750	17,750	17,250	17,750	17,000
Ammonia-N	0.34	0.06	0.07	0.13	0.08
Nitrate-N	0.0	0.0	0.0	0.0	0.0
Total P	0.04	0.002	0.01	0.02	0.02
Total Coliform	100	60	30	15	5
Fecal Coliform	80	2	2	2	2
Turbidity	4	1	1	1	2
Specific Conductivity	7,000	35,000	39,000	38,000	40,000
Sulfate	300	2,625	2,425	2,525	2,450
Calcium	50	400	390	350	370
Magnesium	125	1,800	1,500	1,340	1,540

TABLE 4 (CONTINUED)

STATION TIME	SS106-3 1111	SS106-4 1055	SS106-5 1140	SS106-6 1130	SS107-1 1210
BOD_5	0.1	0.8	0.6	0.4	1.5
pH	8.1	8.0	8.1	8.2	8.1
Total Alkalinity	114	109	114	110	113
Suspended Solids	1.5	3.0	2.0	1.5	1.5
Total Solids	32,360	32,280	31,460	32,170	32,110
Chlorides	17,750	17,000	17,500	17,500	17,750
Ammonia-N	0.08	0.08	0.08	0.08	0.11
Nitrate-N	0.0	0.0	0.0	0.0	0.0
Total P	0.02	0.35	0.01	0.01	0.01
Total Coliform	5	5	5	5	20
Fecal Coliform	2	2	2	2	2
Turbidity	1	1	1	1	1
Specific Conductivity	40,000	41,000	40,000	37,000	32,000
Sulfate	2,300	2,300	2,525	2,225	2,450
Calcium	350	340	330	410	420
Magnesium	1,550	1,370	1,480	1,750	1,640

TABLE 4 (CONTINUED)

STATION TIME	SS107-2 1155	SS107-3 1205	SS107-4 1212	SS107-5 1225	SS108-1 1145
BOD_5	0.9	1.7	0.9	1.0	1.4
pH	8.1	8.1	8.2	8.1	8.2
Total Alkalinity	114	113	115	113	113
Suspended Solids	1.3	2.5	1.5	1.5	1.5
Total Solids	32,440	32,460	32,090	32,000	32,110
Chlorides	17,000	17,000	17,000	17,250	17,750
Ammonia-N	0.07	0.08	0.07	0.06	0.07
Nitrate-N	0.0	0.0	0.0	0.0	0.0
Total P	0.04	0.01	0.02	0.02	0.02
Total Coliform	5	5	5	15	5
Fecal Coliform	2	2	2	2	2
Turbidity	2	1	1	1	1
Specific Conductivity	40,000	40,000	40,000	41,000	36,000
Sulfate	2,525	2,575	2,400	2,300	2,300
Calcium	400	390	370	420	410
Magnesium	1,680	1,600	1,700	1,870	1,700

TABLE 4 (CONTINUED)

STATION TIME	SS109-1 1235	SS109-2 1245	SS110-1 1155	SS110-2 1200	SS110-3 1205
BOD_5	2.1	0.8	1.4	1.5	1.9
pH	8.0	8.2	7.7	7.8	8.1
Total Alkalinity	108	111	43	57	95
Suspended Solids	3.8	1.5	3.5	6.0	2.0
Total Solids	31,410	32,090	9,970	12,760	26,740
Chlorides	16,000	16,000	6,250	6,750	14,250
Ammonia-N	0.09	0.09	0.13	0.11	0.14
Nitrate-N	0.0	0.0	0.0	0.0	0.0
Total P	0.04	0.01	0.04	0.03	0.03
Total Coliform	15	5	100	5	5
Fecal Coliform	10	2	70	4	2
Turbidity	1	1	1	1	1
Specific Conductivity	38,000	40,000	15,000	18,000	32,000
Sulfate	2,300	2,400	800	850	1,725
Calcium	350	380	120	120	290
Magnesium	1,420	1,680	490	501	1,250

TABLE 4 (CONTINUED)

STATION TIME	SS110-4 1215	SS110-5 1225	SS111-1 1135	SS111-2 1140	SS112-1 1100
BOD_5	1.9	1.2	1.8	1.5	0.8
pH	8.1	8.1	7.5	8.1	7.9
Total Alkalinity	110	110	60	104	104
Suspended Solids	3.5	5.0	3.5	1.0	3.0
Total Solids	30,860	32,370	15,980	29,900	31,600
Chlorides	15,750	15,750	8,500	15,750	16,250
Ammonia-N	0.14	0.09	0.09	0.14	0.25
Nitrate-N	0.0	0.0	0.0	0.0	0.0
Total P	0.01	0.02	0.02	0.02	0.01
Total Coliform	5	5	100	10	5
Fecal Coliform	2	2	40	8	2
Turbidity	1	1	1	1	1
Specific Conductivity	39,000	39,000	22,000	36,000	35,000
Sulfate	2,125	2,350	1,150	2,225	2,125
Calcium	340	320	200	290	320
Magnesium	1,440	1,300	1,000	1,290	1,570

TABLE 4 (CONTINUED)

STATION TIME	SS112-2 1110	SS112-3 1130	SS113-1 1130	SS113-2 1135	SS113-3 1130
BOD_5	1.9	1.6	1.5	1.3	0.6
pH	7.9	7.7	8.0	8.0	7.1
Total Alkalinity	106	93	109	105	14
Suspended Solids	4.0	4.5	17.5	4.0	1.0
Total Solids	30,326	27,030	33,600	30,900	1,800
Chlorides	16,250	14,250	17,000	16,250	1,250
Ammonia-N	0.24	0.12	0.23	0.16	0.00
Nitrate-N	0.0	0.0	0.00	0.00	0.00
Total P	0.04	0.02	0.07	0.02	0.03
Total Coliform	5	25	10	10	150
Fecal Coliform	2	2	5	5	2
Turbidity	1	1	1	1	1
Specific Conductivity	38,000	34,000	41,000	40,000	5,200
Sulfate	2,050	1,900	2,275	2,275	275
Calcium	300	290	310	310	25
Magnesium	1,230	1,220	1,430	1,400	70

TABLE 4 (CONTINUED)

STATION TIME	SS113-4 1145	SS113-5 1120	SS113-6 1110	SS113-7 1045	SS114-1 1057
BOD_5	0.9	0.7	0.6	3.5	0.3
pH	7.9	8.0	8.0	7.1	8.1
Total Alkalinity	103	108	107	17	106
Suspended Solids	3.5	3.5	2.5	12	9.0
Total Solids	29,900	31,590	31,980	516	31,700
Chlorides	16,000	15,750	16,500	10,250	17,250
Ammonia-N	0.14	0.84	0.26	0.02	0.04
Nitrate-N	0.0	0.0	0.0	0.0	0.0
Total P	0.02	0.03	0.03	0.03	0.01
Total Coliform	200	150	6,500	600	10
Fecal Coliform	4	2	2	240	5
Turbidity	1	1	1	6	1
Specific Conductivity	36,000	38,000	40,000	1,380	41,000
Sulfate	2,225	2,525	2,400	200	2,275
Calcium	270	300	280	7.5	330
Magnesium	1,220	1,530	1,400	3.0	1,620

TABLE 4 (CONTINUED)

STATION TIME	SS114-2 1104	SS114-3 1110	SS114-4 1120	SS114-5 1130	SS115-1 1030
BOD_5	0.7	2.4	0.7	0.7	0.3
pH	8.0	8.0	7.9	8.0	8.2
Total Alkalinity	101	106	107	110	110
Suspended Solids	32	12	16.5	11	7.0
Total Solids	29,500	31,500	34,000	31,900	36,500
Chlorides	15,500	16,250	16,750	16,750	17,000
Ammonia-N	0.04	0.03	0.03	0.66	0.05
Nitrate-N	0.0	0.0	0.0	0.0	0.0
Total P	0.04	0.05	0.03	0.03	0.01
Total Coliform	10	10	10	10	10
Fecal Coliform	1	1	1	1	1
Specific Conductivity	35,000	39,000	40,000	41,000	40,000
Sulfate	2,275	2,275	2,275	2,275	2,275
Calcium	280	320	310	310	340
Magnesium	1,425	1,640	1,480	1,500	1,560

TABLE 4 (CONTINUED)

STATION TIME	SS115-2 1021	SS115-3 1015	SS115-4 1041	SS115-5 1050	SS116-1 1010
BOD_5	0.4	1.3	0.7	0.5	1.0
pH	8.1	8.0	8.0	8.0	8.2
Total Alkalinity	108	107	105	102	110
Suspended Solids	3.5	2.5	22	34.5	8.0
Total Solids	33,000	32,200	33,700	32,000	32,100
Chlorides	17,000	16,250	17,000	16,500	16,750
Ammonia-N	0.05	0.05	0.05	0.04	0.09
Nitrate-N	0.0	0.0	0.0	0.0	0.0
Total P	0.00	0.01	0.02	0.02	0.01
Total Coliform	10	10	10	10	10
Fecal Coliform	5	5	5	5	5
Turbidity	1	1	1	1	1
Specific Conductivity	40,000	40,000	40,000	39,000	40,000
Sulfate	2,275	2,275	2,425	2,275	2,275
Calcium	310	340	340	370	340
Magnesium	1,450	1,550	1,560	1,640	1,610

TABLE 4 (CONTINUED)

STATION TIME	SS116-2 1025	SS116-3 1050	SS116-4 1045	SS116-5 1035	SS116-6 1105
BOD_5	1.3	0.1	1.2	1.6	0.7
pH	8.0	8.2	8.1	8.2	8.0
Total Alkalinity	97	109	107	109	84
Suspended Solids	7.0	18	20	15.5	7.0
Total Solids	28,800	32,500	30,900	32,400	22,600
Chlorides	15,500	16,500	16,750	16,250	14,250
Ammonia-N	0.08	0.07	0.08	0.06	0.04
Nitrate-N	0.0	0.0	0.0	0.0	0.0
Total P	0.01	0.02	0.01	0.01	0.01
Total Coliform	130	10	10	10	10
Fecal Coliform	30	5	5	5	5
Turbidity	1	1	1	1	1
Specific Conductivity	37,000	41,000	40,000	40,000	31,000
Sulfate	2,000	2,425	2,275	2,425	1,700
Calcium	260	340	300	280	260
Magnesium	1,250	1,720	1,390	1,380	1,250

TABLE 4 (CONTINUED)

STATION TIME	SS116-7 1115	SS116A-1 1330	SS116A-2 0945	SS116A-3 1000
BOD_5	0.9	0.9	1.0	1.1
pH	8.2	6.6	8.1	8.1
Total Alkalinity	57	65	109	110
Suspended Solids	3.0	3.5	4.5	14.5
Total Solids	14,400	32,800	32,600	33,100
Chlorides	8,250	17,000	17,250	17,500
Ammonia-N	0.02	0.12	0.11	0.11
Nitrate-N	0.0	0.0	0.0	0.0
Total P	0.02	0.00	0.01	0.04
Total Coliform	40	10	10	10
Fecal Coliform	15	5	5	5
Turbidity	1	0	0	0
Specific Conductivity	20,500	42,000	40,000	40,000
Sulfate	1,025	2,425	2,275	2,275
Calcium	150	300	300	270
Magnesium	600	1,480	1,400	1,400

TABLE 5

CAPE COD DRAINAGE CLASSIFICATION

BOUNDARY	PRESENT USE	ANTICIPATED FUTURE USE	PRESENT CONDITION	CLASSIFICATION
Cape Cod Canal, Bourne and Sandwich	Recreational boating, fish & wildlife propatation, fishing, industrial processing & cooling	Same	SB	SB
Mill Creek, Sandwich	Recreational boating, fish & wildlife propagation, fishing, bathing	Recreational boating, bathing, fish & wildlife propagation, fishing, shellfishing	SC*	SA
Barnstable Harbor, Barnstable	Recreational boating, fish & wildlife propagation, fishing, bathing	Recreational boating, bathing, fish & wildlife propagation, fishing, shellfishing	SC*	SA
Wellfleet Harbor, Wellfleet	Restricted shellfishing, recreational boating, fish & wildlife propagation, fishing, bathing	Recreational boating, bathing, fish & wildlife propatation, fishing, shellfishing	SB*	SA
Pamet River, Truro	Recreational boating, fish & wildlife propagation, fishing, bathing	Recreational boating, bathing, fish & wildlife propagation, fishing, shellfishing	SB*	SA
Provincetown Harbor, Provincetown	Recreational boating, fish & wildlife propagation, fishing, bathing	Recreational boating, bathing, fish & wildlife propagation, fishing, shellfishing	SC*	SA
Frostfish Creek, Chatham	Recreational boating, fish & wildlife propagation, fishing, bathing, restricted shellfishing	Recreational boating, bathing, fish & wildlife propagation, fishing, shellfishing	SB*	SA
Stage Harbor, Chatham	Recreational boating, fish & wildlife propagation, fishing, bathing, restricted shellfishing	Recreational boating, bathing, fish & wildlife propagation, fishing, shellfishing	SB*	SA

TABLE 5 (CONTINUED)

BOUNDARY	PRESENT USE	ANTICIPATED FUTURE USE	PRESENT CONDITION	CLASSIFICATION
Wychmere Harbor, Harwich	Recreational boating, fish & wildlife propagation, fishing, bathing, restricted shellfishing	Recreational boating, bathing, fish & wildlife propagation, fishing, shellfishing	SB*	SA
Allens Harbor, Harwich	Recreational boating, fish & wildlife propagation, fishing, bathing, restricted shellfishing	Recreational boating, bathing, fish & wildlife propagation, fishing, shellfishing	SB*	SB
Herring River, Harwich	Recreational boating, fish & wildlife propagation, fishing, bathing, restricted shellfishing	Recreational boating, bathing, fish & wildlife propagation, fishing, shellfishing	SB*	SA
Swan Pond River, Dennis	Recreational boating, fish & wildlife propagation, fishing, bathing, restricted shellfishing	Recreational boating, bathing, fish & wildlife propagation, fishing, shellfishing	SB*	SA
Lewis Bay, Barnstable	Recreational boating, fish & wildlife propagation, fishing, bathing	Recreational boating, bathing, fish & wildlife propagation, fishing, shellfishing	SC*	SA
Falmouth Inner Harbor, Falmouth	Recreational boating, fish & wildlife propagation, fishing, bathing	Recreational boating, bathing, fish & wildlife propagation, fishing, restricted shellfishing	SC*	SB
Great Harbor, Falmouth	Recreational boating, fish & wildlife propagation, fishing, bathing	Recreational boating, bathing, fish & wildlife propagation, fishing, shellfishing	SC*	SA
Eel Pond (Woods Hole), Falmouth	Recreational boating, fish & wildlife propagation, fishing, bathing	Recreational boating, bathing, fish & wildlife propagation, fishing, shellfishing	SC*	SA

TABLE 5 (CONTINUED)

BOUNDARY	PRESENT USE	ANTICIPATED FUTURE USE	PRESENT CONDITION	CLASSIFICATION
Wild Harbor, Falmouth	Recreational boating, fish & wildlife propagation, fishing, bathing, restricted shellfishing	Recreational boating, bathing, fish & wildlife propagation, fishing, shellfishing	SB*	SA
Red Brook Harbor, Bourne	Recreational boating, fish & wildlife propagation, fishing, bathing, restricted shellfishing	Recreational boating, bathing, fish & wildlife propagation, fishing, shellfishing	SB*	SA
Pocasset Harbor, Bourne	Recreational boating, fish & wildlife propagation, fishing, bathing, restricted shellfishing	Recreational boating, bathing, fish & wildlife propagation, fishing, shellfishing	SB*	SA
Phinneys Harbor, Bourne	Recreational boating, fish & wildlife propagation, fishing, bathing, restricted shellfishing	Recreational boating, bathing, fish & wildlife propagation, fishing, shellfishing	SB*	SA
All waters in Cape Cod Basin subject to the rise and fall of the tide unless denoted above	---	---	SA	SA
All fresh water streams in Cape Cod Basin	---	---		B

*Portion of the designated area not meeting classification.

PART B: ANALYSIS OF WASTEWATER DISCHARGES

INTRODUCTION

This section of the report is a compilation of the laboratory results from the 1975-76, 76-77 and 77-78 discharge surveys. Samples for the 1975-76 and 76-77 surveys were collected in 1976 while those for 1977-78 were collected in 1977. Discharges were sampled in accordance with the National Pollutant Discharge Elimination System (NPDES), permit requirements established under the Federal Water Pollution Control Act.

During 1975-76 there were nine known sources discharging to surface waters in the Cape Cod Basin. A total of eight dischargers had NPDES discharge permits. Several of the sources were not discharging during the sample period and were noted accordingly.

The 1976-77 period eliminated the sampling of untreated wastes and power generating stations. Untreated wastes are at present on implementation and will be re-sampled when corrected treatment is applied. Power generating facilities are self-monitoring and at present is considered to be an adequate means of control. Government inspections and future sampling will continue unannounced.

Four discharges were sampled during the 1977-78 survey. One discharge was eliminated and several others were in the process of implementing measures that would correct violations.

Flow rates were measured in the field or were obtained from industrial personnel. pH measurements were taken using a color comparitor and temperature measurements were taken with field thermometers.

All samples were analysed at the Lawrence Experiment Station of the Department of Environmental Quality Engineering. The analyses were performed according to APHA's Standard Methods for the Examination of Water and Wastewater (14th Edition 1975, New York). Data were compiled and tabulated by personnel of the Massachusetts Division of Water Pollution Control, Water Quality and Research Section.

CANAL ELECTRIC - MONTAUP ELECTRIC COMPANY

LOCATION:	Sandwich
DATE SAMPLED:	June 9, 1976
RECEIVING WATER:	Cape Cod Canal
TYPE OF WASTE:	Discharge - 001B - Floor and equipment drains 002C - Equipment washing, boiler chemical cleaning wastes 002 - Circulating water screen and flume flushing
TREATMENT PROCESS:	001B and 001C - Neutralization, settling lagoon, then discharged into the canal. 002 - thermal discharge to canal no treatment.
TYPE OF SAMPLE:	Grab
FUTURE STATUS:	No Change

CANAL ELECTRIC - MONTAUP ELECTRIC COMPANY

1976 LABORATORY ANALYSES

PARAMETER	JUNE 9
DISCHARGE 001B	
Flow (MGD)	0.0072
BOD_5 (mg/l)	17
Suspended Solids (mg/l)	65
pH (Standard Units)	9.4
Total Alkalinity (mg/l)	49
phth Alkalinity (mg/l)	24
Oil & Grease (mg/l)	3.0
Chlorides (mg/l)	220
Vanadium (mg/l)	0.25
Aluminum (mg/l)	0.00
Zinc (mg/l)	0.05
Chromium (mg/l)	0.00
Copper (mg/l)	0.02
Iron (mg/l)	0.10
Manganese (mg/l)	0.04
Nickel (mg/l)	0.05

CANAL ELECTRIC - MONTAUP ELECTRIC COMPANY

1977-78 LABORATORY ANALYSES

PARAMETER	SEPTEMBER 13, 1977
Flow (MGD)	001B - No discharge @ time of sampling. 001C - No discharge @ time of sampling. 002 - Common cooling water discharge est. flow = 460.8 MGD
Temperature	#002 - Intake - 60°F Effluent - 71°F
Chlorine Residual Effluent	0.0*
pH (Standard Units) Effluent	8.2
Total Phosphorus (as P) Effluent	.7

* Chlorination only in summer.

CANAL VIEW APARTMENTS

LOCATION:	Sagamore - Sandwich
DATED SAMPLED:	June 8, 1976
RECEIVING WATER:	Cape Cod Canal
TYPE OF WASTE:	Domestic
TREATMENT PROCESS:	Septic System
TYPE OF SAMPLE:	Grab
FUTURE STATUS:	Discharge eliminated as of 10/77

1976 LABORATORY ANALYSES

PARAMETER	JUNE 8
Flow	-
BOD_5 (mg/l)	246
Suspended Solids (mg/l)	46
Settleable Solids (ml/l)	2.0
pH (Standard Units)	6.6
Fecal Coliform/100 ml	9.3×10^6
Total Coliform/100 ml	2.4×10^7
Total Alkalinity (mg/l)	167

BARNSTABLE COUNTY SEWAGE TREATMENT PLANT

LOCATION:	Main Street, Barnstable
DATE SAMPLED:	No discharge on June 9 and November 15, 1976
RECEIVING WATER:	Unamed tributary to Barnstable Harbor
TYPE OF WASTE:	Domestic
TREATMENT PROCESS:	Extended Aeration System (1500 GPD)
TYPE OF SAMPLE:	No sample taken
FUTURE STATUS:	No Change

DURREL, WILLIAM

LOCATION:	Main Street, Barnstable
DATE SAMPLED:	June 8, 1976 - November 15, 1976
RECEIVING WATER:	Salt Marsh to Barnstable Harbor
TYPE OF WASTE:	Domestic
TREATMENT PROCESS:	Septic System
TYPE OF SAMPLE:	Grab
FUTURE STATUS:	Under Implementation Orders

1976 LABORATORY ANALYSES

PARAMETER	JUNE 8	NOVEMBER 15
	Discharge not located	-
Flow	-	-
Total Coliform/100 ml	-	4.6×10^6
Fecal Coliform/100 ml	-	1.5×10^6

AQUACULTURE RESEARCH CORPORATION

LOCATION:	Chapin Beach Pond, Dennis
DATE SAMPLED:	June 9, 1976 - November 15, 1976
RECEIVING WATER:	Chase Garden Creek
TYPE OF WASTE:	Discharge from aquarium seawater system.
TREATMENT PROCESS:	None
TYPE OF SAMPLE:	Grab
FUTURE STATUS:	No change

1976 LABORATORY ANALYSES

PARAMETER	JUNE 9	NOVEMBER 15
Discharge 001		
Flow	-	-
BOD_5 (mg/l)	1.8	-
Suspended Solids (mg/l)	3.5	-
Settleable Solids (ml/l)	0.1	-
pH (Standard Units)	7.4	-
Total Alkalinity (mg/l)	83	-
Total Coliform/100 ml	7500	9300
Fecal Coliform/100 ml	200	930
Discharge 002		
Total Coliform/100 ml	No discharge	91
Fecal Coliform/100 ml	-	<36

HENRY T. WING SCHOOL

LOCATION:	Sandwich
DATE SAMPLED:	June 8, 1976 - November 11, 1976
RECEIVING WATER:	Cape Cod Canal
TYPE OF WASTE:	Domestic
TREATMENT PROCESS:	Septic System
TYPE OF SAMPLE:	Grab
FUTURE STATUS:	No Change

1976-77; 1977-78 LABORATORY ANALYSES

PARAMETER	JUNE 8	NOVEMBER 11	SEPTEMBER 13, 1977
Flow (GPD)	2600	3000	-
BOD_5 (mg/l)	4.0	6.0	-
Suspended Solids (mg/l)	38	12	-
Settleable Solids (ml/l)	0.002	0.1	-
pH (Standard Units)	6.7	6.9	-
Ammonia-N (mg/l)	-	41	-
Nitrate-N (mg/l)	-	7.6	-
Alkalinity	358	250	-
Fecal Coliform/100 ml	36	230	27000
Total Coliform/100 ml	430	2400	600

CANAL MARINE, INCORPORATED

LOCATION:	Off Tupper Road, Sandwich
DATE SAMPLED:	June 8, 1976
RECEIVING WATER:	Cape Cod Canal
TYPE OF WASTE:	Water used in the washing of fish
TREATMENT PROCESS:	None
TYPE OF SAMPLE:	Grab
FUTURE STATUS:	No change

1976 LABORATORY ANALYSES

PARAMETER	JUNE 8
Flow (GPD)	144,000
pH (Standard Units)	7.5 - 8.0
Temperature °F	55

NORTHEAST FISHERIES CENTER

LOCATION:	Falmouth
DATE SAMPLED:	June 8, 1976 - November 15, 1976
RECEIVING WATER:	Falmouth Harbor
TYPE OF WASTE:	Discharge from aquarium seawater system.
TREATMENT PROCESS:	Settling Lagoon
TYPE OF SAMPLE:	Grab
FUTURE STATUS:	Chlorination equipment to be installed

1976 LABORATORY ANALYSES

PARAMETER	JUNE 8	NOVEMBER 15
Flow (GPD)	700	-
Total Coliform/100 ml	2,400	< 36
Fecal Coliform/100 ml	36	< 36
pH (Standard Units)	9.0 - 9.5	-

NORTHEAST FISHERIES CENTER

1977-78 LABORATORY ANALYSES

PARAMETER	SEPTEMBER 13, 1977
BOD_5 (mg/l)	2.0
pH (Standard Units)	8.1
Alkalinity (mg/l)	110
Total Kjeldahl-N	1.1
Ammonia-N (mg/l)	.1
Nitrate-N (mg/l)	4.4
Total Phosphorus (mg/l)	.24
Fecal Coliform/100 ml	< 5
Total Coliform/100 ml	< 10

COCA COLA BOTTLING COMPANY OF CAPE COD

LOCATION:	Sagamore, Sandwich
DATE SAMPLED:	June 8, 1976
RECEIVING WATER:	Cape Cod Canal
TYPE OF WASTE:	Combined (Domestic & Industrial Untreated)
TREATMENT PROCESS:	None
TYPE OF SAMPLE:	Grab
FUTURE STATUS:	On Implementation Orders

1976 LABORATORY ANALYSES

PARAMETER	JUNE 8
Flow (GPD)	8,500
BOD_5 (mg/l)	6,300
COD (mg/l)	11,800
Suspended Solids (mg/l)	26
Total Solids (mg/l)	9,300
Settleable Solids (ml/l)	0.0
pH (Standard Units)	4.5
Total Phosphorus (mg/l)	13
Ammonia-N (mg/l)	0.01
Nitrate-N (mg/l)	1.0
Total Alkalinity (mg/l)	0.0
Fecal Coliform/100 ml	9.3×10^6
Total Coliform/100 ml	4.3×10^7

MASSACHUSETTS MARITIME ACADEMY SEWAGE TREATMENT PLANT

LOCATION:	Bourne
DATE SAMPLED:	September 13, 1977
RECEIVING WATER:	Cape Cod Canal
TYPE OF WASTE:	Domestic
TREATMENT PROCESS:	Oxigest process plant, secondary treatment
TYPE OF SAMPLE:	Grab
FUTURE STATUS:	No Change

1977-78 LABORATORY ANALYSES

PARAMETER	SEPTEMBER 13, 1977
Flow (MGD)	.02 Summer .03 Winter
Suspended Solids (mg/l)	
Influent	368
Effluent	72
BOD_5 (mg/l)	
Influent	540
Effluent	39
Chlorine Residual	
Effluent	0.0*
Coliform (per 100 ml)	
Total	4.0×10^6
Fecal	6.0×10^5
pH (Standard Units)	
Effluent	7.2
Influent	6.7
Total Phosphorus (as P) mg/l	
Influent	16
Effluent	14
Ammonia-N (mg/l)	
Influent	38
Effluent	.22
Nitrite-N (mg/l)	
Influent	.1
Effluent	3.2

* School session began 9/12/77, chlorine shipment not arrived yet

SPECIFIED LEVELS OF CERTAIN PARAMETERS

MASSACHUSETTS WATER QUALITY STANDARDS REVISED 1974

	DISSOLVED OXYGEN	pH	COLIFORM BACTERIA	CHEMICAL CONSTITUENTS
Class A	Not less than 75% of saturation for 16 hours of any 24 hour period and never less than 5 mg/1. For cold water streams the D.O. shall not be less than 6 mg/1. For seasonal cold water the D.O. shall not be less than 6 mg/1 for the season.	As naturally occurs	Not to exceed an average of 50 per 100 ml for any monthly period.	None in concentrations or combinations which would be harmful or offensive to humans, or harmful to animal or aquatic life.
Class B	Same as Above	6.5 - 8.0	Not to exceed an average value of 1000 during any monthly sampling period nor 2400 in more than 20% of samples examined during such period.	None in concentrations or combinations which would be harmful or offensive to humans, or harmful to animal or aquatic life, or any water use specifically assigned to this class.
Class B1	Not less than 5 mg/1 during at least 16 hours of any 24 hour period, nor less than 3 mg/1 at any time. For seasonal cold water fisheries at least 6 mg/1 must be maintained during the season.	6.5 - 8.0	Same as Above	Same as Above
Class C	Same as Above	6.0 - 8.5	None in such concentrations that would impair any usages specifically assigned to this class.*	Same as Above
Class C1	Not less than 2 mg/1 at any time.	6.0 - 8.5	Same as Above	Same as Above

SPECIFIED LEVELS OF CERTAIN PARAMETERS (CONTINUED)

	DISSOLVED OXYGEN	pH	COLIFORM BACTERIA	CHEMICAL CONSTITUENTS
Class SA	Not less than 6.5 mg/1.	6.8 - 8.5	Not to exceed a median value of 70 and not more than 10% of samples over 230.	None in concentrations or combinations which would be harmful to human, animal, or aquatic life or which would make the waters unsafe or unsuitable for fish or shellfish or their propagation, impair the palatability of same, or impair the waters for any other uses.
Class SB	Not less than 5.0 mg/1.	6.8 - 8.5	Not to exceed a median value of 700 and not more than 10% of samples over 2300.	Same as Above
Class SC	Not less than 5 mg/1 during at least 16 hours of any 24 hour period and never less than 3 mg/1.	6.5 - 8.5	None in concentrations that would impair any usages assigned to this class.*	Same as Above

* No bacteria limit has been placed on this class because of urban runoff and combined sewer problems which have not yet been solved. In waters of this class not subject to this problem the standard shall be less than an average of 5,000 coliform bacteria/100 ml during any monthly sampling period.

SELECTED ANALYSES OF UNPOLLUTED WATERS

	LAKE QUINSIGAMOND WORCESTER	SWIFT RIVER BELOW QUABBIN RESERVOIR	PARKER RIVER BYFIELD	CHATHAM HARBOR AUNT LYDIA'S COVE
Dissolved Oxygen, mg/1	11.2-12.5	7.4-9.2	7.2-8.4	8.5
5-Day B.O.D., mg/1	0.8	1.8	1.9	--
Suspended Solids, mg/1	1.5	5	4	2.0
pH	6.7	6.5	7.6	8.0
Alkalinity, mg/1	18	8	37	103
Total Coliform per 100 ml.	28	1300	300	<10
Fecal Coliform per 100 ml.	5	14	--	< 5
Color, Std. Units	28	25	68	10
Turbidity, Std. Units	2	4	2	1
Ammonia as N., mg/1	0.04	0.10	0.04	.09
Nitrite as N., mg/1	--	0.000	0.006	--
Nitrate as N., mg/1	--	0.0	0.1	0.0
Total Phosphorus as P, mg/1	0.04	0.07	0.16	.06
Chlorides	--	--	--	16,500
Total Solids	--	--	--	31,000

MEASURES OF WATER POLLUTION

The term "water pollution" has acquired many connotations. Literally, the word pollute means "render impure;" thus, in this sense, any water containing matter other than its chemical constituents of two parts hydrogen to one part oxygen would be considered polluted. Such "pure" water, however, is never found in natural bodies; the ecological balance in a waterbody is dependent on the presence of other material. In this report, water pollution refers to a condition which is in contravention of the Water Quality Standards. Pollution degrades the physical, chemical, and bacterial quality of a waterbody and can make it unsightly, malodorous, and a health hazard, its uses sharply limited. Pollution occurs mainly through the discharge of wastes from homes and industries. The various types of pollution are: (1) oxygen-demanding, such as originates from domestic sewage and certain industrial wastes, (2) toxic materials as in some industrial wastes, (3) radioactive (4) thermal, (5) bacterial, (6) oil, and (7) physical. Stormwater runoff from both urban and rural areas can also add pollutants to a waterbody.

The extent of pollution in a particular waterbody is determined by measuring certain chemical and biological constituents and properties. Chemical constituents, such as dissolved oxygen, phosphates, and metals, are generally measured in milligrams per liter (mg/l); since the unit weight of water is 1.0 grams per milliliter, milligrams per liter are roughly equivalent to parts per million for a solution which is mostly water.

Dissolved Oxygen (D.O.) refers to the uncombined oxygen in water which is available to aquatic life. Since this oxygen is consumed more rapidly in the decomposition of wastes, the D.O. gives an instantaneous picture of the condition of a waterbody. Time of day and temperature of the water are important in interpreting D.O. levels. Temperature affects the amount of oxygen which water can contain. Time of day is related to the effects of algae. Algae consume oxygen through respiration throughout the day and night. During daylight hours, they add oxygen through photosynthesis. D.O. levels are therefore generally highest during the afternoon and lowest just before sunrise.

Biochemical Oxygen Demand (B.O.D.) measures the amount of oxygen required by bacteria to decompose organic matter. The B.O.D. is gradually exerted, consisting of two stages. In the first stage, carbonaceous matter is stabilized while nitrogenous substances are broken down in the second stage. The second stage (nitrification) usually begins after seven days. The ultimate, or total, B.O.D. from both stages may require an incubation period of 30 days or more. Through recurrent use, the 5 day B.O.D. has become the standard test used in water quality analysis.

Chemical Oxygen Demand (C.O.D.) refers to the amount of oxygen required to chemically oxidize waste material. Since some of the organic matter in a waste cannot be decomposed by microorganisms but can be broken down by chemical oxidation, the C.O.D. is generally greater than the B.O.D. The C.O.D. is especially useful in analyzing a waste that contains a great deal of non-biodegradable matter.

Nitrite Nitrogen is the oxidation product of ammonia. It has a fairly low oxygen demand and is rapidly coverted to nitrate. The presence of nitrite nitrogen usually indicates that active decomposition is taking place.

Nitrate Nitrogen is important since it is the end product in the aerobic decomposition of nitrogenous matter. Nitrogen in this form is readily available to plants.

Turbidity is the measure of the clarity of a water sample. It is expressed in Jackson Standard Units which are related to the scattering and absorption of light by the water sample.

Color is determined by visual comparison of a sample with known concentrations of colored solution and is expressed in standard units of color. Certain waste discharges may turn water to colors which cannot be defined by this method; in such cases, the color is expressed qualitatively rather than numerically.

Specific Conductance yields a measure of a water sample's capacity to convey an electric current. It is dependent on temperature and the concentration of ionized substances in the water. Distilled water exhibits specific conductance of 0.5 to 2.0 micromhos per centimeter while natural waters show values from 50 to 500 micromhos per centimeter.

The above parameters are measured in most water quality surveys. Other constituents such as metals or radioactivity are measured in areas where particular problems are known to exist. Microscopic examinations are conducted on most surveys to measure the amount of algae and other microorganisms present. Additional samples of the river bottom are usually collected in order to determine the types of deposits present. Decomposition of organic suspended matter which settles to the bottom will exert an oxygen demand on the water.

Two types of samples are collected for analysis: grab and composite. A grab sample is an instantaneous sample collected to show conditions at a particular time. Composite samples are collected over a period of time at specific intervals, giving a better picture of the overall water quality situation for the time covered.

Certain levels of the above parameters occur naturally in waterbodies. Since these levels vary among the different ponds, streams, and coastal waters, the following tables are presented for the sake of reference. Appendix 1 summarizes the numerical limits for certain paramters as specified by the Massachusetts Water Quality Standards. Appendix 2 lists levels found in unpolluted reaches of various Massachusetts waters.

Total Solids measures all solids in water including suspended and dissolved, organic and inorganic. They are measured by evaporating the water from a sample of known volume and weighing the residue remaining. The residue then can be ignited in a laboratory furnace to determine the organic portion. the loss on ignition is considered organic and the remaining residue, known as fixed solids, is considered to be inorganic.

Suspended Solids are those which can be removed by passing the water through a filter. The remaining solids are called dissolved solids. Suspended solids provide a good measure of the efficiency of a sewage treatment plant; primary treatment should remove about 50 percent of the suspended solids while secondary treatment should remove about 90 percent.

Coliform Bacteria are found in abundance in the intestinal tract of warm-blooded animals. They are not harmful in themselves, but their presence indicates that pathogenic bacteria also may be present. Since they can be detected by relatively simple test procedures, coliforms are used to indicate the extent of bacterial pollution from sewage. Bacterial tests usually measure the fecal coli and the total coli. Fecal coli make up about 90 percent of the coliforms discharged in fecal matter. Non-fecal coli may originate in soil, grain, or decaying vegetation.

pH measures the hydrogen ion concentration on an inverse logarithmic scale ranging from 0 to 14. pH values under 7 indicate more hydrogen ions and therefore more acidic solutions; pH values over 7 indicate less hydrogen ions and therefore more alkaline solutions. A pH of 7 indicates a neutral solution. Alkalinity is a quantitative measure of the alkaline materials present while acidity is a quantitative measure of acidic materials.

Nutrients are compounds which act as fertilizers for aquatic organisms. Small amounts are necessary to the ecological balance of a waterbody but excessive amounts can upset the balance by causing excessive growths of algae and other aquatic plants. Sewage discharged to a waterbody usually contains large amounts of carbon, nitrogen, and phosphorus. The concentration of carbonaceous matter is reflected in the B.O.D. test. Additional tests are run to determine the concentrations of nitrogen and phosphorus.

Phosphorus appears in waterbodies in combined forms known as ortho-and polyphosphates and organic phosphorus. The majority of the phosphorus contained in domestic sewage and industrial wastes comes from detergents. Additional phosphorus may enter a waterbody in agricultural runoff where fertilizers are used.

Nitrogen in the form of organic nitrogen decomposes into ammonia nitrogen, nitrite nitrogen and nitrate nitrogen. Since each decomposition reaction is dependent on the preceding one, the progress of decomposition can be determined in terms of the relative amounts of these four forms of nitrogen.

Ammonia Nitrogen is present in sewage and is also generated from the decomposition of organic nitrogen. It can also be formed when nitrites and nitrates are reduced. Ammonia is particularly important since it has high oxygen and chemical demands and is also toxic to fish.

GLOSSARY

Acidity - The quantitative capacity of aqueous solutions to react with hydroxyl ions. It is measured by titration with a standard solution of a base to a specified end point. Usually expressed as milligrams per liter of calcium carbonate.

Alkalinity - The capacity of water to neutralize acids, a property imparted by the water's content of carbonates, bicarbonates, hydroxides, and occasionally borates, silicates, and phosphates. It is expressed in milligrams per liter of equivalent calcium carbonate.

Anaerobic Waste Treatment - Waste stabilization brought about through the action of microorganisms in the absence of air or elemental oxygen. Usually refers to waste treatment by methane fermentation.

Biochemical Oxygen Demand (BOD) - The quantity of oxygen used in the biochemical oxidation of organic matter in a specified time, at a specified temperature, and under specified conditions.

Biological Wastewater Treatment - Forms of wastewater treatment in which bacterial or biochemical action is intensified to stabilize, oxidize, and nitrify the unstable organic matter present. Intermittent sand filters, contact beds, trickling filters, and activated sludge processes are examples.

Chemical Oxygen Demand (COD) - A measure of the oxygen-consuming capacity of inorganic and organic matter present in water or wastewater. It is expressed as the amount of oxygen consumed from a chemical oxidant in a specific test. It does not differentiate between stable and unstable organic matter and thus does not necessarily correlate with biochemical oxygen demand.

Chlorination - The application of chlorine to water or wastewater, generally for the purpose of disinfection, but frequently for accomplishing other biological or chemical results.

Clarification - Any process or combination of processes, the primary purpose of which is to reduce the concentration of suspended matter in a liquid.

Coliform - Bacteria found in abundance in the intestinal tract of warm-blooded animals. They are not harmful in themselves, but their presence indicates that pathogenic bacteria may be present. Since they can be detected by relatively simple test procedures, coliforms are used to indicate the extent of bacterial pollution from sewage. Bacterial tests usually measure the fecal and total coliforms. Fecal coliform make up about 90 percent of the coliforms discharged in fecal matter. Non-fecal coliforms may originate in soil, grain, or decaying vegetation.

Comminution - The process of cutting and screening solids contained in the wastewater flow before it enters the flow pumps or other units in the treatment plant.

Composite Wastewater Sample - A combination of individual samples of water or wastewater taken at selected intervals, generally hourly, for some specified period, to minimize the effect of the variability of the individual sample. Individual samples may have equal volume or be proportioned to the flow at the time of sampling.

Data - Records of observations and measurements of physical facts, occurrences, and conditions, reduced to written, graphical, or tabular form.

Fats (wastes) - Triglyceride esters of fatty acids; erroneously used as synonomous with grease.

Flocculation - In water and wastewater treatment, the agglomeration of colloidal and finely divided suspended matter after coagulation by gentle stirring by either mechanical or hydraulic means. In biological wastewater treatment where coagulation is not used, agglomeration may be accomplished biologically.

Grab Sample - A single sample of wastewater taken at neither set time nor flow.

Grease - In wastewater, a group of substances including fats, waxes, free fatty acids, calcium and magnesium soaps, mineral oils, and certain other nonfatty materials. The type of solvent and method used for extraction should be stated for quantification.

Grit Chamber - A detention chamber or enlargement of a sewer designed to reduce the velocity of flow of the liquid to permit the separation of mineral from organic solids by differential sedimentation.

Hardness - A characteristic of water imparted by salts of calcium, magnesium, and iron such as bicarbonates, carbonates, sulfates, chlorides, and nitrates, that cause curdling of soap, deposition of scale in boilers, damage in some industrial processes, and sometimes objectionable taste. It is expressed as equivalent calcium carbonate.

Heavy Metals - These elements are toxic when present in sufficient quantities and can be fatal. They can adversely affect sewage treatment systems and the biological systems of waterbodies. They include cadmium, chromium, copper, iron, lead, manganese, nickel, and zinc.

Industrial Wastes - The liquid wastes from industrial processes, as distinct from domestic or sanitary wastes.

Inorganic Matter - Chemical substances of mineral origin, or, more correctly, not of basically carbon structure.

Lagoon - A pond containing raw or partially treated wastewater in which aerobic or anaerobic stabilization occurs.

Most Probable Number (MPN) - That number of organisms per unit volume that, in accordance with statistical theory, would be more likely than any other number to yield the observed test result with the greatest frequency. Expressed as density of organisms per 100 ml. Results are computed from the number of positive findings of coliform-group organisms resulting from multiple-portion decimal-dilution plating.

Nitrogen - A common non-metallic element that in free form is normally a colorless, odorless, tasteless, insoluble, inert, diatomic gas. In the combined form, it has a wide range of valences and is a constituent of biologically important compounds (as proteins) and hence of all living cells as well as industrially important substances (as cyanides, fertilizers, dyes).

Nitrogen, Ammonia - A compound of nitrogen and hydrogen, NH_3, which is part of the nitrogen cycle. Its presence in sufficient amounts in a stream can indicate a wastewater discharge. The oxidation of ammonia depletes a stream of dissolved oxygen. It is toxic in sufficient amounts, especially to fish.

Nitrogen, Kjeldahl - This represents the total organic nitrogen content of water.

Nitrogen, Nitrate - Nitrate represents the most highly oxidized phase in the nitrogen cycle and normally reaches important concentrations in the final stages of biological oxidation. Nitrogen in this form is readily available to plants.

Organic Matter - Chemical substances of animal or vegetable origin, or more correctly, of basically carbon structure, comprising compounds consisting of hydrocarbons and their derivatives.

Oxidation - The addition of oxygen to a compound. More generally, any reaction which involves the loss of electrons from an atom.

Oxidation Pond - A basin used for the retention of wastewater before final disposal, in which biological oxidation of organic matter is affected by natural or artificially accelerated transfer of oxygen to the water from air.

Parshall Flume - A calibrated device developed by Parshall for measuring the flow of a liquid in an open conduit.

Pathogenic Bacteria - Bacteria that may cause disease in the host organism by their parasitic growth.

pH - The reciprocal of the logarithm of the hydrogen ion concentration. The concentration is the weight of hydrogen ions in grams per liter of solution. Neutral water, for example, has a pH value of 7 and hydrogen ion concentration of 10^{-7}.

Phenol - An aromatic compound which is a monohydroxy derivative of benzene. In concentrated solution, it is quite toxic to bacteria. Widely used as a germicide. Commonly known as carbolic acid.

Phosphorus - A nonmetallic multivalent element of the nitrogen family that occurs widely in combined form, especially as inorganic phosphates in minerals, soils, and natural waters, and as organic phosphates in all living cells; it exists in several allotropic forms. The majority of

the phosphorus contained in domestic sewage and industrial wastes comes from detergents.

Primary Settling Tank - The first settling tank for the removal of settleable solids through which wastewater is passed in a treatment works.

Primary Treatment - The first major (sometimes the only) treatment in a wastewater treatment works, usually sedimentation. The removal of a substantial amount of suspended matter but little or no colloidal and dissolved matter.

Residual Chlorine - Chlorine remaining in water or wastewater at the end of a specified contact time as combined or free chlorine.

Sampler - A device used with or without flow measurement to obtain an aliquot portion of water or waste for analytical purposes. May be designed for taking a single sample (grab), composite sample, continuous sample, or periodic sample.

Secondary Settling Tank - A tank through which effluent from some prior treatment process flows for the purpose of removing settleable solids.

Secondary Wastewater Treatment - The treatment of wastewater by biological methods after primary treatment by sedimentation.

Sludge Digestion - The process by which organic or volatile matter in sludge is gasified, liquified, mineralized, or converted into more stable organic matter through the activities of either anaerobic or aerobic organisms.

Sludge Thickening - The increase in solids concentration of sludge in a sedimentation or digestion tank.

Solids, Settleable - That matter in wastewater which will not stay in suspension during a pre-selected settling period, such as an hour, but which either settles to the bottom or to the top. In the Imhoff cone test, the volume of matter that settles to the bottom in one hour.

Solids, Suspended - Solids that either float on the surface of, or are in suspension in, water, wastewater, or other liquids and which are largely removable by laboratory filtering. The quantity of material removed from wastewater in a laboratory test, as prescribed in Standard Methods for the Examination of Water and Wastewater, and referred to as non-filterable residue.

Solids, Total - The sum of dissolved and undissolved constitutents in water or wastewater, usually stated in milligrams per liter.

Wastewater Survey - An investigation of the quality and characteristics of each waste stream, as in an industrial plant or municipality.