SUPPLEMENTAL REPORT

ON

SURFACE WATER POLLUTION IN THE

STATE OF MAINE

1954

SURVEY OF

TIDAL WATERS

PART II

THE WATER IMPROVEMENT COMMISSION

in collaboration with

DEPARTMENT OF HEALTH AND WELFARE

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ORGANIZATION

As of July 1, 1956

STATE OF MAINE

EDMUND S. MUSKIE, GOVERNOR

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PREFACE

The purpose, scope, and organization of the activities resulting in the collection of data herein contained do not differ materially from that of the 1950 Report.

However the Sanitary Water Board gave way to the Water Improvement Commission as a result of legislative changes in 1951 and certain changes were made in the functions of the commission by the 1953 legislature. Federal funds which had supported a water quality survey team were withdrawn from this purpose in 1952, following which the state appropriated money to carry a partial mobile laboratory team.

A mobile water testing team consisting of a chemist and an engineer, financed by the appropriation of the Water Improvement Commission and a team similarly equipped but for the most part manned by only one technician, a chemist, financed first by federal funds, and later by the state, have been engaged in collecting data for this report throughout the period covered.

PURPOSE AND SCOPE

The objectives intended to be achieved by this report are similar to those of the 1950 Report. In general it can only consolidate the data returned from the work of the field parties since on much of the surface water considered herein there is insufficient data from which to draw conclusions and thus complete the report.

There are certain exceptions to this, however, principally the waters classified by the 1953 legislature and those which have been processed by the commission for legislative action in 1955. Due to limited personnel it was necessary to carry through the collection of classification data on waters having the simplest conditions affecting them which resulted in classification and in collection of data for classification largely on wilderness and semi-wilderness streams but including many basins with drainage from agricultural lands.

The material on surface water classification as presented by this supplement follows the work of the commission itself in classifying waters up to January 1, 1954 but the laboratory data was cut off at March 1, 1954 as the project started by the laboratory teams at that time was unfinished on January 1. The report is divided into three subsections, the first pertaining to surface waters above tidewater, the second to tidal waters, and the third to a coastal sewer survey.

Limited discussion of the problems presented and the results eventually to be desired is included in the individual sections.

POLLUTION LAWS

The legislature of 1951 created the Water Improvement Commission and defined its functions, in effect simply changing the name of the Sanitary Water Board, under Chapter 383, P. L. of 1951.

In 1953 the legislature provided minor administrative changes in the functioning of the Water Improvement Commission, established standards of water quality classification proved classification procedure, and established the classification of certain surface waters in the State. It also requires municipalities to provide information to the Commission relative to the present method of sewage collection and disposal and specifically applies its pollution restrictions to municipalities whereas the previous law did not. The provisions of Section 6 dealing with the deposit of foreign materials in public waters were reworded and certain waters within the state previously exempted from the provisions of the section were removed from the exemption list as of September 1, 1955.

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SURVEY DATA

TIDAL WATERS

(Data taken and accumulated between
Nov. 1, 1950 and Jan. 1, 1954)

WATER QUALITY SURVEYS OF THE SURFACE WATERS OF MAINE

Although the actual field work often included inland waters and those of tidal estuaries in the same survey and reported results without differentiation it is felt necessary to separate the data concerning them in the tabulations which follow throughout this report.

Accordingly, the data resulting from surveys will be found in three sections under Inland Waters, Tidal Estuaries, and Coastal Waters. Narrative data explaining and supplementing narrative data precedes tabulations for a given stream or segment shore line.

Since there is, in many cases, insufficient data from which to draw conclusions pertaining to a given body of water, all conclusions have been withheld, and this portion of the report is compiled only to serve as a data reference.

During the period immediately following the cut-off date of the last report (Nov. 1, 1950) the personnel of the Sanitary Water Board (which became Water Improvement Commission, Aug. 20, 1951) and of the Division of Sanitary Engineering were concentrated on the task of completing the coastal sewer survey. In the month of July 1951, the Water Improvement Commission trailer was moved from Orono to Presque Isle and work was started on the streams of the eastern portion of Maine's St. John Basin where it remained until March of 1952, thus for the first time water testing from the mobile laboratory was attempted during the winter and much was learned of the problems and of this work. In March (1952) the mobile unit was moved to Ellsworth and work on the sampling of streams and tidewater estuaries was continued until July when the unit was moved from the lower St. Croix to Machiasport for sampling of tidal flats in that area. In November of 1952 the laboratory was moved to Milbridge and the tidal flat survey was extended from Machiasport to Sullivan.

In January of 1953 due to failure of utility service at Milbridge it was necessary to find a new place for the trailer. It was taken to Rockland, parked in the local water company yard, and work was begun on sampling of tidal water from the Penobscot to the town of Damariscotta. Later in the year (August), with headquarters remaining at Rockland, work on sampling of inland waters in the general area of the Sheepscot-Medomak-St. George-March Stream watersheds was started. Data assembled is included herein and the cut-off date of this report follows the completion of sampling in this area.

During this period when the Water Improvement Commission mobile laboratory was engaged in eastern Maine, the trailer belonging to the Department of Health and Welfare was in use in York and Cumberland Counties. After the summer of 1952 only one person worked from this laboratory which was set up at Kennebunkport. Data was collected along the Presumpscot, Saco, Mousam, York, Salmon Falls, and Saco Rivers including both the tidal estuary and fresh water portions of these streams as well as a considerable amount of coastal sampling in the Scarboro Area.

In October of 1953, the chemist employed by the Department of Health and Welfare was reassigned to assist the Water Improvement Commission mobile laboratory personnel at the Rockland station and a man ordinarily stationed here was assigned the task of making physical surveys of the Penobscot East Branch, Mattawamkeag and several other small drainages to establish data for reports upon which to base classification hearings. A similar physical survey was made by Department of Health personnel on the Moose and Dead Rivers and on tributaries to Moosehead Lake.

No work was done on tidewater classification during this period other than that shown under sampling and the sewer survey.

Stream classification progress can be defined for this period by pointing to Section 1A of Chapter 403 of Public Laws of 1953 which sets up criteria of classification as follows:

> Sec. 1-A. Standards of classification. 1953, c. 403, § 2. The commission shall have 4 standards for the classification of surface waters and tidal flats.
>
> Class A shall be the highest classification and shall be of such quality that it can be used for bathing and for public water supplies after disinfection, and the dissolved oxygen content of such waters shall not be less than 75% saturation and contain not more than 100 caliform bacteria per 100 milliliters.

There shall be no discharge of sewage or other wastes into water of this classification and no deposits of such material on the banks of such waters in such a manner that transfer of the material into the waters is likely. Such waters may be used for log-driving or other commercial purposes which will not lower its classification.

Class B shall be the second highest classification and the dissolved oxygen content of such waters shall not be less than 75% saturation and contain not more than 300 coliform bacteria per 100 milliliters.

There shall be no disposal of sewage into such waters except from a sewage treatment plant with disinfected effluent, and no disposal of other wastes except those that will not lower the classification of the water or be injurious to aquatic life or render such dangerous for human consumption if commonly so used. Waters of this class shall be considered acceptable for recreational purposes, and, after adequate treatment, for use as a public water supply.

Class C waters, the third highest classification, shall be free from scum, slicks, odors and objectionable floating solids, and shall be free from chemicals and other conditions inimical to fish life, and the dissolved oxygen content of such waters shall not be less than 5 parts per million. During a period of temporary reduction in the dissolved oxygen content in this class water, due to abnormal conditions of temperature or stream flow, for the particular season involved, the commission shall take no action to reduce the amount of pollution from any source which is allowed in such class water under normal conditions.

Class D waters, the lowest classification, shall be considered as primarily devoted to the transportation of sewage and industrial wastes without the creation of a nuisance condition and such waters shall contain dissolved oxygen at all times. During a period of temporary reduction in the dissolved oxygen content in this class water due to abnormal conditions of temperature or stream flow for the particular season involved, the commission, provided a nuisance condition has not then been created in such water and in the opinion of the commission is not likely to be created during such season, shall take no action to reduce the amount of pollution from any source which is allowed in such class water under normal conditions.

In this connection (that of classification standards) it should also be mentioned here that the control of shellfish areas is under the jurisdiction (jointly) of the State Department of Agriculture, Division of Inspection, and the State Department of Sea and Shore Fisheries who accept the standards of the United States Public Health Service in respect to safe quality for shellfish waters. This has been prescribed as a median of 70 B. Coli (m.p.n.).

TIDAL ESTUARIES

Tidal estuaries have been, in this report supplement, considered separately from the streams and from tidal flats. This is principally because, tidal estuaries usually consist of water varying from fresh, to water of sufficient salinity to support a prolific salt water shellfish life, and have characteristics such that the effect of pollution often cannot be measured in the same manner and by the same set of standards, as either stream or coastal water. Salinity of these segments varies from tide stage to tide stage, and the total dilution factor is not the same in any two estuaries, as it is dependent on the mixing of the fresh water with incoming tidal water, the time any given slug of fresh or saline water remains in the estuary, types of channel, and any one, or combinations, of several other factors.

Formerly, the volume of the tidal prism was used as the principle, and in fact, the all-controlling factor in the dilution consideration of the effect of pollution on a tidal estuary, but more recent work has indicated the involvement of so many other factors, that it is no longer deemed of primary importance in all parts of the estuary. It is not possible to depend on mixing of incoming and outgoing waters in this case.

The net chemical condition of an estuary, actually is, of course, the extent to which the body is saline, and since this is continually fluctuating at any given point in an estuary, it is easier and more

satisfactory to consider them apart from either salt water or fresh, since it is also necessary to view the statistical quality of this "brackish" water in a slightly different light, on the basis of its chemical quality, exclusive of pollution.

TIDAL ESTUARY OF THE PISCATAQUIS RIVER

See Map No. 1

The Piscataquis River is actually a long tidal estuary formed by the confluence of several streams. From New Hampshire, the Cocheco joins the Salmon Falls River, a state boundary stream, to form the Piscataquis, which is joined a few miles below this junction by the tributaries of Great Bay, consisting of the Bellamy, Oyster, Lamprey, Exeter, and Piscassic. The only sizable stream, wholly within Maine, is the Great Works River, which enters the Salmon Falls above its junction with the Cocheco.

The basin has a total drainage area of 1,030 square miles, 240 square miles of which are in Maine, the larger part of the area being in New Hampshire. This estuary is about fourteen miles long, and forms the New Hampshire-Maine boundary, throughout its length. There is some degree of industrial development in this basin, most of it in New Hampshire, where the cities of Dover, Rochester, Somersworth and Portsmouth, as well as several large towns, are to be found. In Maine, the principal towns, tributary, are the Berwicks, Kittery, and a residential portion of the city of Sanford.

The waters are of little use for domestic or industrial purposes, because of their salinity and the pollution from industrial sources, and municipalities are quite heavy.

Tabulations, on the following pages, indicate condensed results of sample testing and station descriptions, involved in work, on this stream.

PISCATAQUA & SALMON FALLS RIVERS BASIN

Tabulated Results of Test Data Compiled on Piscataqua & Salmon Falls Rivers Tidal Estuary

Sta. No.	Town	Location	No. Samples	Test Period		Temp °C	Dissolved Oxygen PPM	Dissolved Oxygen % Sat.	pH	CO_2 PPM	B.O.D. PPM	Alkalinity PHEN	Alkalinity MO	Turb.
5	South Berwick	South Berwick Interstate Bridge, below Great Works River	77	8/1/51 to 11/5/52	Min.	19.0	4.3	46	6.2	3.6	0.5		0.34	0
					Av.	9.4	9.9	83	7.0	8.9	1.6	0.12	3.49	3
					Max.	0.0	14.5	100	7.8	43.6	3.7		9.96	20
6A	Kittery	Portsmouth Bridge, second section	77	8/1/51 to 11/5/52	Min.	15.0	7.6	80	7.3	4.0	0.0	0.11	0.40	0
					Av.	9.0	9.4	87	7.9	12.5	0.9	0.49	9.29	1
					Max.	4.0	12.6	101	8.2	58.0	2.6	0.90	13.08	10

PISCATAQUA & SALMON FALLS RIVERS - TIDAL ESTUARY - SUMMER 1953

Bacteriological Tests & Additional D.O. Tests

Sta. No.	No. Samples	Test Period		Temp °C	Dissolved Oxygen PPM	Dissolved Oxygen % Sat.	B. Coli M.P.N.	Salinity
5	10	5/27/53 to 6/23/53	Min.	22.0	5.6	71	11	3,800
			Av.	18.6	6.1	70	9,661	7,695
			Max.	16.0	6.6	81	35,000	12,050
6A	10	5/27/53 to 6/23/53	Min.	15.0	8.3	96	200	14,000
			Av.	13.6	9.0	103	3,081	16,150
			Max.	12.0	9.4	105	16,000	17,500

TIDAL ESTUARY OF THE

YORK RIVER

See Map No. 1

The York River is a small coastal stream, actually a long tidal estuary, formed by the gathering of several brooks. Its valley is well developed and heavily cultured, although there is no industry in the area. The extreme inland extension is well within ten miles of the coast, and the head of tide is approximately six miles inland. There is little woodland in the area, the culture (works of man) being semi-rural, an overflow of Kittery, York Village and Harbor, and Portsmouth, N. H. Most of the drainage basin is in the town of York, and well within the coastal plain. The total drainage area is approximately thirty-three square miles, and the drainage area at head of tide is thirteen square miles. Rainfall data is available for the region, but there are no stream gaging stations in existence.

In tabulations on the following pages, sampling stations are described and results of sampling condensed.

MOUSAM RIVER BASIN

Tabulated Results of Test Data Compiled on York River Tidal Estuary

Sta. No.	Town	Location	No. Samples	Test Period		Temp °C	Dissolved Oxygen PPM	Dissolved Oxygen % Sat.	pH	CO_2 PPM	B.O.D. PPM	Alkalinity PHEN	Alkalinity MO	Turb
1	York	North end of the bathing beach at York Harbor	3	8/6/52 to 8/15/52	Min.	22.0	7.6	96	7.9		1.3	0.62	10.10	0
					Av.	19.0	8.0	95	8.0		1.5	0.76	10.24	0
					Max.	15.0	8.5	93	8.0		1.8	1.03	10.38	0
2	York	South end of the bathing beach at York Harbor	3	8/6/52 to 8/15/52	Min.	20.0	8.7	106	8.0		1.0	0.69	10.00	0
					Av.	19.3	8.7	107	8.0		2.0	0.87	10.29	0
					Max.	22.0	8.8	111	8.1		2.8	1.03	10.50	0
3	York	Behind help quarters at the Marshall House	3	8/6/52 to 8/15/52	Min.	20.0	8.9	108	7.9		2.0	0.94	9.24	0
					Av.	17.0	9.7	110	8.1		2.6	1.01	9.73	0
					Max.	18.0	10.3	120	8.2		2.9	1.10	10.36	0
4	York	Behind west side of Marshall House	3	8/6/52 to 8/15/52	Min.	17.0	8.7	99	7.9		1.2	0.66	9.72	0
					Av.	16.7	9.0	103	8.0		1.5	0.79	10.03	0
					Max.	14.0	9.2	110	8.1		2.0	0.93	10.20	0
5	York	Shallow end of Marshall House swimming pool	3	8/6/52 to 8/15/52	Min.	22.0	8.6	107	8.1		1.2	0.72	8.92	0
					Av.	20.3	9.0	110	8.1		1.4	0.84	9.82	0
					Max.	17.0	9.4	108	8.1		1.6	1.01	10.38	0
6	York	First priv. landing float west of the Marshall swimming pool	20	8/6/52 to 10/28/52	Min.	12.0	7.7	77	7.7		0.4	0.31	9.56	0
					Av.	13.6	8.6	90	8.0		1.1	0.69	10.06	1
					Max.	11.0	10.0	102	8.2		2.7	1.12	10.50	25
7	York	First bridge over the York River, west of the Marshall House	20	8/6/52 to 10/28/52	Min.	15.0	7.4	77	7.8		0.3	0.33	9.18	0
					Av.	13.8	8.6	89	8.0		1.0	0.69	9.87	0
					Max.	11.0	10.0	101	8.2		2.8	1.27	10.33	5
8	York	Second bridge over river, Route 103	17	8/21/52 to 10/28/52	Min.	16.0	7.1	76	7.7		0.4	0.38	9.47	0
					Av.	13.5	8.4	87	7.9		0.8	0.68	9.97	0
					Max.	11.0	9.9	102	8.2		2.1	1.11	10.32	5
9	York	Route 1 bridge over York River	17	8/21/52 to 10/28/52	Min.	18.0	5.8	64	7.5	0.3	0.4	0.20	8.86	0
					Av.	14.9	7.9	85	7.9	3.2	0.9	0.59	9.88	2
					Max.	16.0	9.4	116	8.2	6.0	1.5	1.16	10.50	10
10	York	Sootland Bridge	9	9/10/52 to 10/28/52	Min.	18.0	6.2	69	7.6	4.6	0.3	0.31	8.78	0
					Av.	14.3	7.5	78	7.7	7.0	0.6	0.41	9.49	1
					Max.	9.0	9.0	85	7.8	10.4	1.0	0.59	10.17	5

YORK RIVER - BACTERIOLOGICAL TESTS

Summer 1952

Sta. No.	No. Samples	Test Period		B. Coli M.P.N.
1	17	8/4/52 to 8/18/52	Min.	0
			Av.	191
			Max.	540
2	18	8/4/52 to 8/18/52	Min.	0
			Av.	235
			Max.	1,600
3	17	8/6/52 to 8/18/52	Min.	79
			Av.	4,044
			Max.	16,000
4	18	8/4/52 to 8/18/52	Min.	45
			Av.	360
			Max.	1,800
5	18	8/4/52 to 8/18/52	Min.	0
			Av.	78
			Max.	540
6	17	8/4/52 to 8/18/52	Min.	45
			Av.	811
			Max.	3,500
7	17	8/6/52 to 8/18/52	Min.	33
			Av.	720
			Max.	2,400

TIDAL ESTUARY OF THE

SACO RIVER

See Map No. 2

The tidal estuary of the Saco River is approximately four miles long, extending from the tailwater at the Cataract Development, to Camp Ellis.

The pollution present in this segment of tidewater is due to activities at Biddeford and Saco, far more than any other source. The Saco River discharges the run-off from 1700 square miles of drainage, to this estuary, but due to the size of the towns in its upper basin, and the near absence of wet industry, the stream is in relatively good condition, until Saco and Biddeford are reached.

One sampling station, at the Camp Ellis pier, has been used in tidewater and the results of these tests follow.

SACO RIVER BASIN

Tabulated Results of Test Data Compiled on Saco River Tidal Estuary

Sta. No.	Town	Location	No. Samples	Test Period		Temp °C	Dissolved Oxygen PPM	Dissolved Oxygen % Sat.	pH	CO_2 PPM	B.O.D. PPM	Alkalinity PHEN	Alkalinity MO	Turb.
4A	Saco	A private pier at Camp Ellis	56	7/27/51 to 10/31/52	Min.	23.0	7.2	78	6.0	2.8	0.2	0.06	0.34	0
					Av.	10.1	10.7	95	7.3	6.0	1.0	0.38	4.53	2
					Max.	1.0	14.6	102	8.1	18.6	3.3	0.80	10.49	20

SACO RIVER BASIN - TIDAL ESTUARY - SUMMER - 1953

Bacteriological Tests & Additional D. O. Tests

Sta. No.	No. Samples	Test Period		Temp °C	Dissolved Oxygen PPM	Dissolved Oxygen % Sat.	B. Coli M.P.N.	Salinity
4A	10	6/24/53 to 7/29/53	Min.	22.0	7.2	94	3,300	6,500
			Av.	18.7	8.1	99	15,320	13,150
			Max.	17.0	8.5	104	54,000	18,000

TIDAL ESTUARY OF THE

PENOBSCOT RIVER

See Map No. 5

The tidal estuary of the Penobscot represents a twenty-five mile segment of the river, between the dam at Bangor and the lower end of Verona Island. Several towns, Bucksport, Hampden and Winterport, discharge untreated sewage to these waters, besides the cities of Bangor and Brewer, which discharge sewage from a total population of about 35,000 persons. There are also several sources of industrial waste, including a paper mill and gravel washing plants, discharging waste directly to the stream.

The Penobscot Watershed is the largest of all the drainage areas, lying wholly within Maine, having a drainage area of 7760 square miles, at the head of tide, and a total of 8570, to the river's mouth. Rainfall records indicate an average of about forty-three inches annually, in the coastal area, which tapers to thirty-seven inches, at the inland end of the area, giving the entire watershed a rainfall of about forty inches per year. Above East Millinocket there is storage effective on the area, but a large portion of the basin is unaffected by regulation of flow. The lowest gaging station, at Passadumkeag, (d.a. 7000 sq. mi.), indicates an average annual run-off between 1.5 and 2.0 c.f.s. per square mile.

The Penobscot, approaching Bangor, carries enough pollution to make it a class "C" stream. Its B.O.D. is rather high, but its D.O. is slightly over 75° saturation. There is degredation of the water at Bangor, and this is apparent throughout the estuary, although gradual recovery, due to time, distance, and tidal dilution, is apparent in the descent to the sea. Due to the pollution and to salinity in the lower reaches, uses of the waters of the Penobscot are limited.

Tabulations, on the following pages, indicate condensed results of sampling and descriptions of sampling stations. Another section of the report, that dealing with coastal and tidewater sewer surveys, contains information concerning sources of pollution along this estuary.

TIDAL ESTUARY OF THE

UNION RIVER

See Map No. 6

This estuary is about three miles in length, extending below Ellsworth in a typical channel. Into this portion of the estuary, only the Union River discharges an appreciable flow of water, although Card Brook brings in some pollution.

This Union River has a drainage area of something over five hundred square miles, at head of tide, with most of its drainage in an area having at least a forty inch annual rainfall. One large storage in this watershed, Graham Lake, behind the Brimmer Bridge Dam, combined with small storages, at places like Branch Pond and Green Lake, has a storage capacity of 7.7 B.C.F., which is used for the benefit of a hydro-electric development at Ellsworth. There is only one official gaging station, at Amherst on the West Branch of the Union River (d.a. 148 square miles), but the records of the generating station at Ellsworth could probably be combined with observations on spillway discharge, or headwater levels, to derive the flow passing through Ellsworth, for dilution calculations, if necessary.

Water arriving at Ellsworth is in relatively good condition, but sewage and waste pollution reduce it to a rather undesirable condition, in the upper reaches of this estuary. The results of this pollution gradually recede, and with the entrance into Union River Bay, above Weymouth Point, the salinity becomes practically ocean strength, but in spite of this dilution too great a count of B. Coli is found, in two sampling stations on the Union River Bay, to permit its use for shellfish taking.

Tabulations, on the following pages, indicate summation of results of pollution, as indicated by sampling data. Two stations, Nos. 6 and 7, the salinity of which indicate they definitely are close to coastal conditions, are included because of their geographical position, and one estuary station in the swimming area at Blue Hill is also included.

PENOBSCOT RIVER BASIN & ADJ. COASTAL AREA

Tabulated Results of Test Data Compiled on Tidal Estuaries

Sta. No.	Town	Location	No. Samples	Test Period		Temp °C	Dissolved Oxygen PPM	Dissolved Oxygen %Sat	pH	CO_2 PPM	B.O.D. PPM	B. Coli M.P.N.	Salinity
Penobscot River													
23	Hampden	Old Pier on west side at old ferry slip at Hampden Highlands	8	4/7/52 to 5/19/52	Min.	11.0	7.8	71	6.3		1.4	430	6
					Av.	6.0	12.7	101	6.8		3.5	146,195	11
					Max.	2.0	15.1	109	7.1		9.4	1,100,000	20
24	Winterport	Wharf of Penobscot Terminal Co.	8	4/7/52 to 5/19/52	Min.	12.0	9.8	89	6.6		0.8	930	14
					Av.	6.0	12.8	101	6.8		2.3	7,668	423
					Max.	2.0	14.2	103	7.1		3.4	46,000	1,300
25	Bucksport	Wharf of Northeast Coal & Dock Corp.	8	4/8/52 to 6/3/52	Min.	15.0	8.2	85	6.9		1.2	430	700
					Av.	6.0	11.9	97	7.2		2.3	1,486	4,788
					Max.	3.0	13.3	102	7.4		3.2	4,300	8,300
26	Prospect	West bank under Waldo-Hancock bridge	7	4/7/52 to 5/19/52	Min.	10.0	9.4	87	7.2		1.0	930	3,500
					Av.	6.0	11.9	98	7.4		1.6	1,064	7,472
					Max.	2.0	13.5	104	7.6		2.4	2,400	10,400
27	Prospect	Wharf at old landing of Bucksport ferry	6	4/9/52 to 5/19/52	Min.	10.0	9.0	83	7.1		1.0	930	2,100
					Av.	7.0	11.4	98	7.3		1.5	1,318	6,550
					Max.	3.0	13.2	102	7.7		2.0	2,300	16,300
28	Bucksport	Wharf of Eastern Corp. just below St. Regis Paper Co.	8	4/8/52 to 6/3/52	Min.	14.0	8.4	88	7.0		0.4	930	3,000
					Av.	5.5	11.4	95	7.4		1.9	3,761	8,575
					Max.	2.0	13.1	97	7.7		3.3	15,000	13,500
29	Bucksport-Verona	Bridge between towns in channel	8	4/8/52 to 6/3/52	Min.	14.0	8.3	85	7.1		1.0	360	1,800
					Av.	6.0	11.9	98	7.3		2.1	2,796	6,075
					Max.	3.0	14.1	107	7.5		2.6	9,300	11,400
30	Stockton Springs	Wharf of Summers Fertilizer Co. at Sandy Point	7	4/7/52 to 5/19/52	Min.	10.0	9.1	87	7.3		0.0	390	7,500
					Ave.	5.9	11.4	97	7.4		1.2	867	12,567
					Max.	3.0	12.8	103	7.5		2.4	2,400	27,700
31	Stockton Springs	At old factory in Ft. Point Cove	7	4/7/52 to 5/19/52	Min.	15.0	10.3	110	7.3		0.8	43	10,600
					Av.	6.7	11.9	103	7.5		1.6	919	12,729
					Max.	5.0	15.1	127	7.9		3.6	3,900	19,900
32	Orland	Pier at end of point about 100 yds below dam at Orland Village	5	4/16/52 to 6/3/52	Min.	17.0	8.6	95	6.3		0.2	43	12
					Av.	9.8	10.7	95	6.9		1.0	2,763	2,528
					Max.	6.0	12.4	100	7.3		1.8	11,000	6,900
33	Orland	Eastern shore nearly opposite Gross Point where road comes close to shore	5	4/8/52 to 6/3/52	Min.	17.0	8.4	91	7.0		1.2	93	1,500
					Av.	6.4	11.8	98	7.3		1.8	718	6,229
					Max.	3.0	13.2	103	7.4		2.4	2,300	8,600
34	Orland	Eastern shore opposite Verona Island about ¼ mi. north or Penobscot T.Line	1	4/10/52	Min.								
					Av.							430	11,700
					Max.								
35	Castine	Shore at Morse Cove(point of sampling varied with condition of the tide)	8	8/8/52 to 6/3/52	Min.				7.4			43	5,100
					Av.	18.0			7.6			335	12,375
					Max.				8.0			930	17,400
36	Castine	Shore near Bethany Chapel	1	4/18/52	Min.								
					Av.				7.4			430	14,700
					Max.								
37	Castine	Wadsworth Cove at public picnic area	4	4/18/52 to 6/3/52	Min.				7.6			9	15,500
					Av.				7.9			291	18,600
					Max.				8.2			930	25,600
Verona Bridge			6	5/6/52	Min.							430	7,500
					Av.							1,295	9,750
					Max.							4,300	13,300
Verona Park			6	5/6/52	Min.							230	9,700
					Av.							953	13,067
					Max.							2,300	14,600
Oak Point			6	5/23/52	Min.							750	8
					Av.							2,463	17
					Max.							4,600	20
Union River													
5	Ellsworth	Point on East shore at Latitude 44° 30'	8	4/25/52 to 6/4/52	Min.				7.1			93	2,600
					Av.				7.5			2,641	11,838
					Max.				7.7			9,300	18,700
6	Trenton	End of point just south of Mill Cove	8	4/25/52 to 6/4/52	Min.				7.7			23	15,900
					Av.				7.9			438	22,550
					Max.				8.0			1,500	27,600
7	Trenton	Road 2 miles below Mill Cove	7	4/25/52 to 6/4/52	Min.				7.8			< 3	14,700
					Av.				7.9			391	22,572
					Max.				7.9			2,400	29,000
Blue Hill													
1	Blue Hill	Swimming Area	1	6/17/52	Min.								
					Av.				7.4			930	6,900
					Max.								

ST. CROIX RIVER

TIDEWATER ESTUARY

See Map No.

The tidewater estuary, of the St. Croix River, is defined as the portion of the river between head of tide and the point where salinity becomes great enough to produce an environment for salt water fish and shellfish. In the case of the St. Croix, this is geographically in the vicinity of the Eastern Pulpwood Company Wharf, near the country club, and for purposes of this section of the report, and the section devoted to clam flats, this point will be considered the dividing line between tidal estuary and coastal waters.

Since quality of waters of tidal estuaries is determined, in approximately the same manner and in the case of the State of Maine, by the same criteria as those used for fresh water, the same considerations regarding classification will apply. Salinity in the St. Croix increases rapidly, because the estuary is much wider, in comparison to the volume of fresh water discharged, than most other Maine rivers, at a point an equivalent distance from head to tide.

The degredation of the river at Woodland is not, by any means, offset by self-purification before it reaches Calais and St. Stephen, where it receives sanitary waste from between 9,000 and 10,000 persons and industrial waste from a textile plant and other industries, (both U. S. and Canadian considered). The combined effect, on the St. Croix tidal estuary, results in a poor quality water throughout the length of the segment.

Economic factors governing use of the stream and its waters, at this point, vary little from those considered in describing the fresh water portion of the stream.

ST. CROIX RIVER BASIN

Tabulated Results of Test Data Compiled on St. Croix River Tidal Estuary

Sta. No.	Town	Location	No. Samples	Test Period		Temp °C	Dissolved Oxygen PPM	Dissolved Oxygen %Sat.	pH	CO_2 PPM	B.O.D. PPM	B. Coli M.P.N.	Salinity
7	Calais	International Bridge at Main Street	10	7/23/52 to 10/21/52	Min.	23.0	7.1	82	6.7		1.7	930	120
					Av.	17.4	7.8	92	7.3		1.9	8,873	3,645
					Max.	12.0	9.1	88	7.6		2.4	24,000	7,200
8	Calais	Old wharf at end of road just upstream from St. Croix Country Club	8	7/23/52 to 10/15/52	Min.	24.0	6.8	80	7.1		1.0	3,900	3,880
					Av.	19.0	7.7	84	7.4		2.6	27,114	8,140
					Max.	14.0	8.9	89	7.6		6.7	110,000	12,200
9	Calais	Whitlocks Mills lighthouse on west shore	7	8/6/52 to 10/21/52	Min.				7.2			230	9,200
					Av.				7.6			12,213	20,700
					Max.				7.9			46,000	27,000

TIDAL FLATS AND COASTAL SURVEY

Since the cut-off data (Nov. 1950) of the original pollution report considerable work has been done on tidal flats and coastal waters. Sampling was done in the vicinity of Scarboro by personnel of the Division of Sanitary Engineering from January through April of 1953 and by personnel of the Water Improvement Commission and along the coast from East Machias to Calais from July to November of 1952, from Machias to Sullivan between November 1952 and January of 1953, and between Stockton Springs and Damariscotta (including Islesboro) from January to August 1953.

B. Coli medians have been recorded in the tabulations for coastal work since it is a common method of statistical expression and is in use by many other agencies. Averages have also been computed and recorded since this was the method used in the 1950 Report.

In many cases throughout the tabulations, stations were abandoned after a few sample analyses. This was due to a variety of reasons such as proximity to other stations, absence of shellfish or suitable environment therefor, or in some instances quality of water incoming from streams was desired. In cases such as the St. Croix River where six or seven samples verified the water quality which could be expected from the sanitary survey, this amount of sampling was considered sufficient for classification of the water.

The same classification criteria established by Maine statutes apply to all waters regardless of whether fresh, brackish, or salt. However, in the case of the B. Coli factor which is the criteria by which shellfish areas are judged safe or unsafe, a count of 70 M.P.N. originated with and is recommended by the American Public Health Association as a maximum for safe areas and is used by the Maine Department of Agriculture to determine opening or closing of shellfish taking areas.

Material on tidal flats and coastal waters is not summarized since the data consists almost exclusively of tabulated and semi-tabulated facts.

TIDAL FLAT AND COASTAL AREA

OF BASIN 12

See Map No. 1

No recent survey has been made of the tidal flats within this drainage basin. However, a map of the area is being included in this report to keep the continuity of the coastline intact and to have the map published for future use and for whatever pertinent information it may contain at this time.

TIDAL FLAT AND COASTAL AREA

BASIN NO. 14

See Map No. 2

Contained on the following page are tabulated data accumulated by field personnel working in the town of Scarboro during 1953. Sampling stations are entirely on the flats formed by the outlets of the Scarboro, Nonesuch, Libby, and Spurwink Rivers. It appears from sample medians that the Nonesuch River is responsible for the high B. Coli counts at certain stations. One station well within the estuary of the Spurwink is also above the allowable value for open clam flats.

SACO RIVER BASIN & ADJ. COASTAL AREA

Tabulated Results of Test Data Compiled on Tidal Flats (Chemical Analyses)

See Map No. 2

Sta. No.	Town	Location	No. Samples	Test Period		Temp °C	Dissolved Oxygen PPM	Dissolved Oxygen % Sat.	pH	CO_2 PPM	B.O.D. PPM	Alkalinity PHEN	Alkalinity MO	Turb.
1	Scarboro	near town landing at mouth of Jones Creek	3	2/4/53 to 2/25/53	Min.	4.0	9.9	94	7.6		0.6	0.41	8.15	0
					Av.	1.7	10.6	92	7.8	4.6	1.1	0.48	9.82	13
					Max.	0.0	11.4	97	8.0		1.3	0.54	11.20	40
2	Scarboro	back into Jones Creek, about 600' west of lobster pound	2	2/4/53 & 2/25/53	Min.	4.0	10.1	96	8.0		0.6	0.38	9.40	0
					Av.	2.5	10.8	99	8.0		1.0	0.46	10.26	0
					Max.	4.0	11.6	102	8.0		1.3	0.54	11.12	0
3	Scarboro	about 400' east of the town landing & along west side of sand bar	3	2/4/53 to 2/25/53	Min.	3.0	10.0	89	7.7		0.8	0.45	8.71	0
					Av.	2.3	10.5	94	7.9	3.8	1.5	0.49	9.69	5
					Max.	0.0	11.4	97	8.0		1.9	0.52	10.29	15
4	Scarboro	on the northeast side of the sand bar & about opposite Sta. 3	1	2/20/53	Min.									
					Av.	2.0	10.4	85	7.3	10.0	2.7		6.29	20
					Max.									
5	Scarboro	opposite the end of first rd. to water, west of the R.R. tracks	2	3/12/53 & 3/19/53	Min.	2.0	11.5	99	7.7		1.4		8.45	0
					Av.	3.0	11.6	105	7.8	4.0	1.5	0.44	9.20	3
					Max.	4.0	11.8	111	7.8		1.6		9.94	5
6	Scarboro	opposite the end of rd. from Prouts Neck to the river opposite Pine Pt.	2	3/12/53 & 3/19/53	Min.	3.0	11.8	101	7.7		1.7		9.06	0
					Av.	3.5	11.9	107	7.8	4.0	1.8	0.15	9.55	5
					Max.	4.0	12.0	112	7.9		1.8		10.03	10
7	Scarboro	opposite end of private rd., No. of Sta 2 at mouth of Libby River	2	3/12/53 & 3/19/53	Min.	4.0	11.8	104	7.6		1.8		7.41	0
					Av.	4.0	11.9	108	7.8	8.0	1.8	0.36	8.60	3
					Max.	4.0	11.9	111	7.9		1.9		9.79	5
8	Scarboro	along Libby River N.E. of confluence with Three Creek	2	3/12/53 & 3/19/53	Min.	4.0	11.8	101	7.5		1.4		6.82	0
					Av.	4.0	12.6	113	7.8	9.6	1.5	0.31	8.19	3
					Max.	4.0	13.3	124	8.0		1.5		9.56	5
9	Scarboro	opposite and So. of the end of the Winnocks Neck Road	2	4/15/53 & 4/22/53	Min.	7.0	10.6	88	6.7	5.0	0.7		1.30	0
					Av.	6.0	10.7	91	7.2	5.7	1.1		3.49	10
					Max.	5.0	10.8	94	7.6	6.4	1.4		5.68	20
10	Scarboro	about 800' So. of Winnocks Neck Rd., along course of Nonesuch R.	2	4/15/53 & 4/22/53	Min.	5.0	10.4	94	6.8	5.0	0.6		1.38	5
					Av.	6.5	10.6	93	7.3	5.0	0.9		4.39	8
					Max.	8.0	10.8	92	7.8	5.0	1.1		7.40	10
11	Scarboro	near mouth of Spurwink R. & about 200' below H.W. line on Higgins B.	2	4/15/53 & 4/22/53	Min.	10.0	9.3	89	7.3		1.0		6.06	0
					Av.	8.0	9.7	93	7.7	9.0	1.8	0.28	7.98	0
					Max.	6.0	10.0	97	8.0		2.6		9.89	0
12	Scarboro	near the mouth of Angells Creek, along the Spurwink River	2	4/15/53 & 4/22/53	Min.	10.0	8.6	82	7.4		0.5		6.44	0
					Av.	8.5	9.3	91	7.7	9.8	1.2	0.36	7.96	3
					Max.	7.0	10.0	100	7.9		1.8		9.47	5

SACO RIVER BASIN & ADJ. COASTAL AREA

Tabulated Results of Test Data Compiled on Tidal Flats

Sta. No.	No. Samples	Median M.P.N.	Samp. >70 M.P.N.	Remarks	Test Period		Station	Breakdown for stages of tide: ½Ebb	Low	½Flood	High
Scarboro											
1	22	41	9	Few clams	1/29/53 to 2/25/53	No. Samples	22		11		11
						Av. M.P.N.	192		361		23
2	22	23	5	Wide flats, some clams, in spots	1/29/53 to 2/25/53	No. Samples	22		11		11
						Av. M.P.N.	68		108		28
3	21	23	8	Sandy, few clams	1/29/53 to 2/25/53	No. Samples	21		11		10
						Av. M.P.N.	92		168		9
4	10	240	9	Sandy, few clams, river bank	1/30/53 to 2/25/53	No. Samples	10		10		
						Av. M.P.N.	415		415		
5	20	43	9	Small flats, few clams	3/5/53 to 3/27/53	No. Samples	20		10		10
						Av. M.P.N.	120		189		52
6	20	28	6	Sandy, few if any clams	3/5/53 to 3/27/53	No. Samples	20		10		10
						Av. M.P.N.	90		129		51
7	20	41	8	Wide flats, some clams in spots	3/5/53 to 3/27/53	No. Samples	20		10		10
						Av. M.P.N.	67		72		63
8	20	28	7	Wide flats, some clams in spots	3/5/53 to 3/27/53	No. Samples	20		10		10
						Av. M.P.N.	50		69		32
9	20	285	17	Wide flats, few clams	4/6/53 to 4/29/53	No. Samples	20		10		10
						Av. M.P.N.	460		661		258
10	20	250	15	Wide flats, few clams	4/6/53 to 4/29/53	No. Samples	20		10		10
						Av. M.P.N.	446		728		164
11	20	32	5	River mouth, small flats, few clams	4/6/53 to 4/29/53	No. Samples	20		10		10
						Av. M.P.N.	213		418		9
12	20	95	11	Small flats, sandy, few clams	4/6/53 to 4/29/53	No. Samples	20		10		10
						Av. M.P.N.	577		1,127		27

TIDAL FLAT AND COASTAL AREA

OF BASIN 16

See Map No. 3

No recent survey has been made of the tidal flats within this drainage basin. However, a map of the area is being included in this report to keep the continuity of the coastline intact and to have the map published for future use and for whatever pertinent information it may contain at this time.

TIDAL FLAT AND COASTAL AREA

OF BASIN 16 A

See Map No. 4

This survey is a portion of the one done during the first half of 1953 when the mobile laboratory was stationed at Rockland.

The pages following contain narrative descriptions of the shoreline and consolidations of tabulated data on water quality.

Much of the shoreline of this section of the coast is not readily approached by road, and it is apparent that many of the clam producing areas are reached by boat. While some shorelines are highly developed as seasonal resorts other parts of the coast are at some distance from any road which may permit winter travel.

Since previous work has been done on the tidal section of the Penobscot River north of Fort Point in Stockton Springs, the present work was started there and progressed westward.

Damariscotta

The upper part of the Damariscotta River and Salt Bay are within closed area #25. Sewage from Damariscotta and Newcastle and waste from an alewife processing plant at Damariscotta Mills pollute the waters, but the great volumes of water rushing in and out to fill and empty Salt Bay provide a great dilution factor.

There are small flats below the closed area on the eastern side of the river.

South Bristol

This town has a very long broken shoreline. Much of the town lies on a long narrow point of land. There are no streams of importance in the town, the largest being dammed to hold back a pond at Clark's Cove. Many coves and inlets have small areas of flats.

The principal settlement is along the gut at South Bristol, part of which is on Rutherford Island. Christmas Cove is also on this island. At these places the population increases greatly in the summer. There are many summer properties, many of these quite large estates.

A boat building company is the only industry. Stores and houses are built over the water along the gut, which provides a fine harbor for small boats. A drawbridge permits passage through the gut.

There are scattered summer properties in more remote parts of the town.

It is very probable that sanitary conditions change considerably between the winter and summer seasons.

Bristol

This town occupies a long point of land and has a long shoreline broken by three principal inlets or harbors. There are not many clam flat areas. There are several villages.

Round Pond is a village built up around an inlet off Muscongus Sound. There are some flats here, and two small streams enter the harbor. There is some seasonal development, but it is not extensive at this time.

Chamberlain is a very small settlement at the head of Long Cove. It is mainly a summer colony built around a small harbor. Summer cottages line most of the shore all the way from this point to New Harbor. While sewers are common, many of these cottages have no adequate water supplies at present.

New Harbor is another village built around a small but fine harbor for small boats. There are a lot of wharves and the harbor is a fishing port. There has been an infiltration of summer residents and there is a small summer hotel. Sewers are numerous to the harbor, but most of these seem to serve summer properties.

Pemaquid Point is well developed as a summer colony and recent expansion has continued this colony along the western shore toward Pemaquid Beach. Many sewers reach the shore along this section of shore.

Pemaquid Beach is a village located near the mouth of Pemaquid River. There are both native population and summer resident property here. There are also two cabin developments. Numerous sewers enter the harbor. At the head of tide is a sawmill which discharges much of its waste sawdust into the river. This is a fair stream of water discharging considerable quantities of fresh water, at least in the spring. There is a beautiful beach of white sand just south of the village, from which the village takes its name.

Across the inlet of Pemaquid River and the harbor is a small settlement known as Pemaquid Harbor. There are a few summer properties and a fish wharf, but native residences are not near the shore.

Pemaquid Beach and New Harbor seem to have summer water supplies. It seems very probable that the sanitary conditions of these areas are very different in the summer season than the remainder of the year.

Johns River, which is on the west side of this town, is entirely tidal water. There are some clam flats along the inlets of Pemaquid River and Johns River.

This town has a very short shoreline on the Damariscotta River on the western edge of the town. There are some flats here also.

Bremen

The shorefront of this town lies along the lower reaches of Medomak River, and it is broken by many coves and inlets. There is no large village. At Medomak there is a small shellfish canning factory on the shore.

The only sizable stream enters tidewater at the Bristol town line at Muscongus.

There are wide clam flats at Broad Cove and probably at other locations, but they are not evident from any highway. There are scattered summer properties along the shoreline but no highly developed areas.

Waldoboro

The village of this town is located at the head of tide of Medomak River. Considerable quantities of fresh water flow from this river and also from Slaign Brook and Goose River, at the Friendship town line. Pollution from public sewers, a poultry slaughter house, a button factory and a canning factory enters the river near the village.

There are wide stretches of clam flats along this river, especially in the coves. There is a lot of commercial digging here.

Friendship

This town is mainly on a long point of land, and there are no streams of importance. The village is not close to the water, and there is no public sewer. There are no industrial plants, but small fish wharves, boat shops and a restaurant on a pier border the west side of the harbor.

There is a lot of clam digging in the Friendship area, but flats are not readily approached from shore. There are wide flats in many coves and inlets. Meduncook River is strictly a tidal inlet with very little fresh water entering.

Summer cottages are found in considerable numbers west of Friendship Harbor and large cottages and most have private sewers to the shore.

Cushing

There are wide areas of tidal flats in this town, especially in the coves along the west side of St. George River. While the northern shoreline of the town is within the closed area of St. George River, there is no village in this town and no industry to pollute the waters.

There is considerable activity of commercial clam digging at several places. Most flats are soft and sticky. There are only small streams in the town, the largest entering Maple Juice Cove.

Thomaston

The shoreline of this town was within the original closed area #27 and still lies mainly within it. There are wide and productive clam flats bordering the St. George River, but considerable pollution originates at Thomaston from public sewers and Maine State Prison and at Warren at the head of tidewater. Industrial pollution comes from a canning factory at Thomaston and a woolen mill at Warren. Large quantities of fresh water come from St. George River and smaller quantities come from Oyster River and Mill River. While the tide affects the river all the way to Warren village there is little more than a muddy channel with grassy banks above Thomaston.

St. George

This town has a very long and broken shoreline with no streams of any real consequence. The two principal villages are at Tennants Harbor and Port Clyde.

A very small closed area was established at Tennants Harbor (#28), at the mouth of a stream inlet. The harbor just outside the closed area is all flats at low water and the water from the closed area flows out over these flats.

The village waterfront is outside the closed area, although several sewers flow out onto the flats there. Apparently the sewer of the village schools is the principal source of pollution to the closed area.

Across the harbor there are several large summer estates and several smaller cottages served by sewers to tidewater.

At Port Clyde there is no closed area, but information available seems to indicate one was intended here and overlooked by error. This seems likely as a large P.W.A. sewer serves the village.

A sardine factory is located at the eastern edge of this village and several fresh fish dealers are located near the center of the village. There are a number of private sewers to the harbor after crossing a clam flat near the sardine factory.

Many inlets in the town have soft, sticky flats exposed at low water, and wide soft flats border the St. George River.

There are some summer properties scattered about the shoreline of the town. These seem likely to increase in numbers.

South Thomaston

A large part of the shoreline of this town borders the long tidal inlet that is Weskeag River. At the village of the town at the bridge there are several private sewers, but the great rush of water in and out past this point provides a great dilution factor. There is very little fresh water flowing into this inlet. There are many acres of flats in this area, but they are not easily accessible from shore.

Near the mouth of Weskeag River at Pleasant Beach is a development of about 20 cottages. At present there are very few sewers to the shore. There is more of a point than a beach here.

Just west of Elwell Point near Sprucehead Island low water leaves a wide area of tidal flats exposed.

The shore of the harbor at Sprucehead Island is mainly granite rubble from old quarries. A settlement of summer cottages and year round dwellings is steadily growing. Until recently there was a shortage of water here, but wells are being drilled in increasing numbers.

Owls Head

Part of the shoreline of this town is within the closed area of Rockland Harbor (#29). There are flats in several parts of the town, but they are rather small areas. There are no streams of any size as the town is mostly on a point of land.

There is now a considerable summer population in the town. It is divided into several developments, the largest of which is at Crescent Beach. Here several sewers cross the beach to tidewater. A hotel and possibly about forty cottages are served. Other developments are located at Holiday Beach and at Ash Point, and they seem to be growing. Cottages are scattered along other shoreline locations. It is quite probable that sanitary conditions may differ considerably between summer and winter.

Rockland

The entire shoreline of Rockland lies within closed area #29. The public sewage and waste of many industries, which are for the most part based upon fish packing and fish by-products, all enter the harbor. The harbor is badly polluted and often gives off bad odors, which sometimes are hidden by the stronger odors given off to the air by some of the industries.

Rockport

Except for Clam Cove, most of the shoreline of Rockport is very rocky and steep. There are no flats except at this cove. Rockport Harbor is within closed area #30. A few sewers enter the harbor. The only industrial waste comes from Homeport Fish Company, which is located near the head of tidewater at the mouth of Goose River. This is only a small river and the only stream of importance in the town.

Clam Cove contains many acres of exposed tidal flats, but there are now few clams remaining.

At the Rockland town line just east of the breakwater the sewer of the Samoset Hotel enters tidewater.

Camden

North of Northeast Point the shoreline of this town is not much developed, but very recently a few cottages and one set of cabins have been located there. The Camden Hills State Park occupies a portion of this shoreline.

Camden Harbor, which contains nearly all of the tidal flats along the shoreline of this town, is within closed area #31. All of the sewage of the town and waste from several industries enters the harbor either directly or from Megunticook River which flows through the heart of the town and enters the head of the harbor. This is the only stream of importance entering tidewater in this town.

KENNEBEC RIVER BASIN & ADJ. COASTAL AREA

Tabulated Results of Test Data Compiled on Tidal Flats

Sta. No.	No. Samples	Median M.P.N.	Samp. > 70 M.P.N.	Remarks	Test Period		Station	Breakdown for stages of tide			
								½Ebb	Low	½Flood	High
Damariscotta											
A	9	12		Wide soft flats with firm areas, some clams	2/18/53 to 6/11/53	No.Samples	9	2	2	3	2
						Av. M.P.N.	18	32	3	35	23
B	4	> 1,100		Sticky, no clams	2/16/53 to 2/6/53	No.Samples	4	1		1	2
						Av. M.P.N.	836	43		> 1,100	> 1,100
South Bristol											
A	6	3	1	Soft flats, some clams	2/16/53 to 5/8/53	No.Samples	6	2		2	2
						Av. M.P.N.	25	23		< 3	48
B	12	167	8	Rocky & some flats, a few clams	2/16/53 to 5/25/53	No.Samples	12	3	3	3	3
						Av. M.P.N.	215	308	264	47	240
B_1	7	930	7	Gravel & ledge	6/24/53 to 8/7/53	No.Samples	7	2	2	1	2
						Av. M.P.N.	1,224	1,247	665	2,400	585
C	16	16	5	Stones & ledge, no clams	2/16/53 to 8/7/53	No.Samples	16	4	4	3	5
						Av. M.P.N.	107	141	182	82	23
C_1	7	240	5	Sand & flats, few clams	6/24/53 to 8/7/53	No.Samples	7	2	2	1	2
						Av. M.P.N.	488	472	58	750	670
C_2	7	930	6	Ledge & flats, no clams	6/24/53 to 8/7/53	No.Samples	7	2	2	1	2
						Av. M.P.N.	2,092	665	237	1,500	5,965
C_3	3	43	1	Rocks & flats, no clams	7/27/53 to 8/7/53	No.Samples	3	1	1		1
						Av. M.P.N.	53	23	93		43
D	16	43	7	Small flats, very few clams	2/16/53 to 8/7/53	No.Samples	16	4	4	3	5
						Av. M.P.N.	270	512	75	325	165
D_1	7	23	3	Soft flats, few clams	6/24/53 to 8/7/53	No.Samples	7	2	2	1	2
						Av. M.P.N.	53	58	50	23	80
D_2	7	140	5	Rocks, few clams	6/24/53 to 8/7/53	No.Samples	7	3	2	1	1
						Av. M.P.N.	419	342	190	> 1,100	43
D_3	7	460	7	Rocks, no clams	6/24/53 to 8/7/53	No.Samples	7	3	2	1	1
						Av. M.P.N.	1,860	373	5,730	> 1,100	240
E	9	1,100	7	Muddy flats, very few clams	2/16/53 to 5/8/53	No.Samples	9	2	2	2	3
						Av. M.P.N.	722	1,100	250	> 1,100	534
E_1	13	93	9	Sandy flats, very few clams	4/6/53 to 8/7/53	No.Samples	13	4	5	3	1
						Av. M.P.N.	180	367	151	109	93
E_2	1	43		Muck & rock, very few clams	5/20/53	No.Samples	1			1	
						Av. M.P.N.	43			43	
E_3	8	190	5	Muck & rocks, very few clams	5/20/53 to 8/7/53	No.Samples	8	3	2	2	1
						Av. M.P.N.	402	347	43	117	> 1,100
E_4	7	240	5	Rocky, very few clams	6/24/53 to 8/7/53	No.Samples	7	3	2	1	1
						Av. M.P.N.	180	313	122	240	43
E_5	7	150	4	Ledges, no clams	6/24/53 to 8/7/53	No.Samples	7	3	2	1	1
						Av. M.P.N.	300	135	562	460	43
F	9	< 3		Stones & gravel, no clams	2/16/53 to 5/8/53	No.Samples	9	2	2	2	3
						Av. M.P.N.	3	6	< 3	3	3
G	7	> 9	1	Long very soft flats, some clams	2/16/53 to 5/8/53	No.Samples	7	2		2	3
						Av. M.P.N.	45	4		26	86
H	9	< 3		Gravel & rock, very few clams	2/16/53 to 5/8/53	No.Samples	9	2	2	2	3
						Av. M.P.N.	14	23	13	3	16
I	9	> 9	1	Gravel & muck, very few clams	2/16/53 to 5/8/53	No.Samples	9	2	2	2	3
						Av. M.P.N.	64	6	23	26	233

Tabulated Results of Test Data Compiled on Tidal Flats

Sta. No.	No. Samples	Median M.P.N.	Samp. > 70 M.P.N.	Remarks	Test Period		Station	Breakdown for stages of tide			
								½Ebb	Low	½Flood	High
Bristol											
A	16	43	6	Gravel & ooze, very few clams	2/8/53 to 8/7/53	No.Samples	16	5	2	5	4
						Av. M.P.N.	56	57	48	62	55
B	17	43	8	Stones, very few clams	3/2/53 to 8/7/53	No.Samples	17	6	2	5	4
						Av. M.P.N.	574	1,947	23	242	85
C	1	43		Cove all muck, no clams	2/8/53	No.Samples	1		1		
						Av. M.P.N.	43		43		
D	15	39	4	Rocks & Ledge, no clams	2/16/53 to 8/3/53	No.Samples	15	5	4	3	3
						Av. M.P.N.	146	114	36	418	16
E	15	14	2	Ledges, no clams	2/16/53 to 8/3/53	No.Samples	15	5	4	3	3
						Av. M.P.N.	41	46	17	18	82
F	16	240	12	Rocks & gravel, very few clams	2/16/53 to 8/3/53	No.Samples	16	5	4	4	3
						Av. M.P.N.	384	674	410	243	208
G	9	4		Sand & rocks, no clams	2/16/53 to 5/20/53	No.Samples	9	3	2	2	2
						Av. M.P.N.	8	7	12	6	6
GG	1	< 3		Firm sand, no clams	5/20/53	No.Samples	1			1	
						Av. M.P.N.	< 3			< 3	
H	12	93	7	Sand, no clams	2/16/53 to 6/11/53	No.Samples	12	3	4	2	3
						Av. M.P.N.	220	192	142	23	523
I	19	93	10	Sand & ledge, no clams	2/16/53 to 8/7/53	No.Samples	19	5	5	4	5
						Av. M.P.N.	2,103	1,007	1,155	6,007	241
I_1	7	240	7	Gravel & rocks, few clams	6/24/53 to 8/7/53	No.Samples	7	2	2	1	2
						Av. M.P.N.	468	580	235	430	625
I_2	7	430	6	Sandy flats, few clams	6/24/53 to 8/7/53	No.Samples	7	2	2	1	2
						Av. M.P.N.	559	235	290	930	780
I_3	5	240	4	Ledges, no clams	7/6/53 to 8/7/53	No.Samples	5	2	1	1	1
						Av. M.P.N.	507	> 1,100	75	23	240
J	13	23	3	Rocky, very few clams	2/16/53 to 8/7/53	No.Samples	13	4	3	3	3
						Av. M.P.N.	165	67	518	35	40
K	8	> 9	2	Soft flats, few clams	2/16/53 to 5/5/53	No.Samples	8	2	2	2	2
						Av. M.P.N.	156	8	562	6	48
Bremen											
A	8	6		Wide firm flats, soft way out, some clams	2/8/53 to 4/30/53	No.Samples	8	2	2	2	2
						Av. M.P.N.	16	26	23	13	3
B	8	8	1	Gravel shore, very few clams	2/8/53 to 5/5/53	No.Samples	8	2	2	2	2
						Av. M.P.N.	22	54	23	8	3
C	8	8	2	Wide soft flats, some clams	3/2/53 to 5/20/53	No.Samples	8	2	2	2	2
						Av. M.P.N.	48	125	15	48	3
D	8	6	1	Small soft flats, very few clams	3/2/53 to 5/5/53	No.Samples	8	2	2	2	2
						Av. M.P.N.	146	6	13	552	13
Waldoboro											
A	10	29	4	Wide soft flats, some clams	1/22/53 to 6/11/53	No.Samples	10	3	1	3	3
						Av. M.P.N.	52	114	> 9	40	46
B	8	33	2	Wide soft flats, some clams	1/22/53 to 5/5/53	No.Samples	8	3	1	2	2
						Av. M.P.N.	85	192	43	6	23
BB	1	23		Stream	1/22/53	No.Samples	1				
						Av. M.P.N.	23				

Tabulated Results of Test Data Compiled on Tidal Flats

Sta. No.	No. Samples	Median M.P.N.	Samp. > 70 M.P.N.	Remarks	Test Period		Station	Breakdown for stages of tide ½Ebb	Low	½Flood	High
Friendship											
A	11	< 4	3	Wide flats with muscle beds, very few clams	1/22/53 to 8/11/53	No.Samples	11	3	2	3	3
						Av. M.P.N.	32	83	< 3	33	10
B	15	43	6	Gravel & rocks, very few clams	1/22/53 to 8/11/53	No.Samples	15	4	3	4	4
						Av. M.P.N.	191	320	314	58	71
C	19	230	13	Gravel flats, very few clams	1/22/53 to 8/11/53	No.Samples	19	5	4	5	5
						Av. M.P.N.	320	398	403	168	310
C_1	7	430	7	Gravel, very few clams	7/7/53 to 8/11/53	No.Samples	7	2	1	2	2
						Av. M.P.N.	1,781	680	150	5,965	330
D	19	43	7	Stones, gravel & ledge very few clams	1/22/53 to 8/11/53	No.Samples	19	5	4	5	5
						Av. M.P.N.	186	194	132	94	324
E	14	68	6	Soft flats below ledge very few clams	1/22/53 to 7/30/53	No.Samples	14	3	2	6	3
						Av. M.P.N.	254	161	562	212	82
F	16	13	6	Sand & beach stones no clams	1/22/53 to 8/11/53	No.Samples	16	5	2	5	4
						Av. M.P.N.	46	42	26	53	63
F_1	6	19		Ledges, no clams	7/7/53 to 8/11/53	No.Samples	6	2	1	1	2
						Av. M.P.N.	19	33	< 3	> 9	29
G	14	7	4	Ledges & shell, no clams	1/22/53 to 8/11/53	No.Samples	14	5	3	3	3
						Av. M.P.N.	102	150	84	16	156
H	1	93	1	Stream	6/5/53	No.Samples	1				
						Av. M.P.N.	93				
Cushing											
A	1	93	1	Gravel shore, some clams	1/22/53	No.Samples	1		1		
						Av. M.P.N.	93		93		
B	12	43	2	Wide flats, some clams	1/22/53 to 6/11/53	No.Samples	12	3	3	3	3
						Av. M.P.N.	65	43	14	43	161
C	12	23	4	Wide soft flats, some clams	1/22/53 to 6/11/53	No.Samples	12	3	3	3	3
						Av. M.P.N.	51	62	17	89	35
D	7	< 4	1	Wide soft flats, some clams	1/22/53 to 5/11/53	No.Samples	7	2	1	2	2
						Av. M.P.N.	17	2	93	6	6
DD	1	460	1	Stream	6/5/53	No.Samples	1				
						Av. M.P.N.	460				
E	8	19		Small soft flats, few clams	1/22/53 to 5/11/53	No.Samples	8	2	2	2	2
						Av. M.P.N.	23	29	23	27	13
F	8	15	1	Gravel, few clams	1/22/53 to 5/11/53	No.Samples	8	2	2	2	2
						Av. M.P.N.	23	13	15	6	59
G	8	93	7	Small flats, very few clams	1/22/53 to 5/11/53	No.Samples	8	2	2	2	2
						Av. M.P.N.	274	132	277	93	597
H	2	125	1	Stream	4/16/53 & 6/5/53	No.Samples	2				
						Av. M.P.N.	125				
St. George											
A	9	< 3		Rocky flats, very few clams	1/21/53 to 5/10/53	No.Samples	9	3	2	2	2
						Av. M.P.N.	4	5	< 3	< 3	< 3
B	15	< 4		Sand flat, no clams	1/21/53 to 7/24/53	No.Samples	15	5	3	3	4
						Av. M.P.N.	10	20	5	< 3	13
C	15	23	4	Soft wide flats, some clams	1/21/53 to 7/24/53	No.Samples	15	5	3	3	4
						Av. M.P.N.	103	86	22	17	285

Tabulated Results of Test Data Compiled on Tidal Flats

Sta. No.	No. Samples	Median M.P.N.	Samp. > 70 M.P.N.	Remarks	Test Period		Station	Breakdown for stages of tide			
								½Ebb	Low	½Flood	High
St. George (cont'd)											
D	18	33	6	Ledge & soft flats, very few clams	1/21/53 to 8/12/53	No.Samples	18	5	3	5	5
						Av. M.P.N.	184	104	37	289	67
E	17	93	9	Sandy shore, very few clams	1/26/53 to 8/9/53	No.Samples	17	5	3	5	4
						Av. M.P.N.	168	176	35	120	342
F	12	93	8	Sandy flats & rock, some clams	1/21/53 to 6/10/53	No.Samples	12	3	3	3	3
						Av. M.P.N.	350	119	684	551	46
G	10	12	4	Sandy flats, few clams	1/21/53 to 6/10/53	No.Samples	10	3	1	3	3
						Av. M.P.N.	331	370	210	736	9
G_1	1	> 9		Gravel flats, wide, some clams	6/3/53	No.Samples	1				1
						Av. M.P.N.	> 9				> 9
GG	2	237	1	Stream	1/22/53 & 3/3/53	No.Samples	2				
						Av. M.P.N.	237				
H	16	8	1	Rocky shore, no clams	1/21/53 to 8/12/53	No.Samples	16	5	2	5	4
						Av. M.P.N.	20	13	3	52	10
I	8	< 3	1	Sand beach, no clams	1/22/53 to 5/15/53	No.Samples	8	2	2	2	2
						Av. M.P.N.	62	12	< 3	< 3	232
J	11	43	4	Rocky flats, very few clams	1/22/53 to 6/10/53	No.Samples	11	3	3	3	2
						Av. M.P.N.	42	57	9	42	59
JJ	1	23		Creek flats, no clams	4/16/53	No.Samples	1	1			
						Av. M.P.N.	23	23			
K	11	3	1	Sand beach, no clams	1/22/53 to 8/12/53	No.Samples	11	3	2	3	3
						Av. M.P.N.	27	18	< 3	82	< 3
L	13	460	13	Sandy flats, some clams	1/22/53 to 7/30/53	No.Samples	13	3	3	4	3
						Av. M.P.N.	2,532	570	> 3,973	4,800	783
L_1	13	210	9	Stones & flats, very few clams	4/16/53 to 7/30/53	No.Samples	13	4	2	4	3
						Av. M.P.N.	226	360	122	88	303
L_2	2	43		Ledges, no clams	7/7/53 & 7/10/53	No.Samples	2	1			1
						Av. M.P.N.	43	43			43
M	12	930	12	Soft, nasty mess, no clams	1/22/53 to 6/10/53	No.Samples	12	3	3	3	3
						Av. M.P.N.	1,563	600	830	4,057	764
M_1	6	1,750	6	Small flats, no clams	7/7/53 to 7/26/53	No.Samples	6	2	1	1	2
						Av. M.P.N.	3,627	1,665	11,000	93	1,750
N	18	68	9	Ledges, stones & gravel very few clams	1/22/53 to 7/26/53	No.Samples	18	5	4	4	5
						Av. M.P.N.	170	155	342	96	88
N_1	7	460	5	Ledges, stones & gravel very few clams	7/10/53 to 7/30/53	No.Samples	7	2	1	2	2
						Av. M.P.N.	512	780	460	252	555
O	8	14		Wide soft flats, very few clams	1/22/53 to 5/15/53	No.Samples	8	2	2	2	2
						Av. M.P.N.	14	13	13	14	16
P	9	43	3	Very wide soft flats, some clams	1/22/53 to 6/3/53	No.Samples	9	2	3	2	2
						Av. M.P.N.	104	29	23	58	305
South Thomaston											
A	14	43	6	Tidal river, soft flats	1/21/53 to 6/10/53	No.Samples	14	4	3	4	3
						Av. M.P.N.	92	171	36	120	40
B	19	23	4	Rocks & ledge, no clams	1/21/53 to 8/12/53	No.Samples	19	6	3	6	4
						Av. M.P.N.	171	63	175	205	242
C	11	> 9	1	Rock & gravel, very few clams	1/21/53 to 6/29/53	No.Samples	11	3	2	4	2
						Av. M.P.N.	695	7	< 3	2,757	12

Tabulated Results of Test Data Compiled on Tidal Flats

Sta. No.	No. Samples	Median M.P.N.	Samp. > 70 M.P.N.	Remarks	Test Period		Station	Breakdown for stages of tide ½Ebb	Low	½Flood	High
South Thomaston (cont'd)											
D	16	23	2	Granite waste, no clams	1/21/53 to 8/12/53	No.Samples	16	6	2	4	4
						Av. M.P.N.	38	14	48	21	70
E	14	93	9	Wide soft flats, a few clams	1/21/53 to 6/10/53	No.Samples	14	4	3	4	3
						Av. M.P.N.	271	99	412	461	112
Owls Head											
A	9	23	1	Ledges, no clams	1/21/53 to 7/29/53	No.Samples	9	2	2	2	3
						Av. M.P.N.	28	48	23	3	36
B	15	23	5	Wide flats, some clams	1/21/53 to 8/13/53	No.Samples	15	4	3	4	4
						Av. M.P.N.	84	31	20	29	257
C	15	240	10	Gravel, very few clams	1/26/53 to 8/13/53	No.Samples	15	4	3	4	4
						Av. M.P.N.	387	402	887	89	170
D	16	277	9	Beach stones, no clams	1/21/53 to 8/13/53	No.Samples	16	4	3	4	5
						Av. M.P.N.	443	780	384	272	334
D_1	8	240	5	Beach gravel, no clams	6/25/53 to 8/13/53	No.Samples	8	2	1	2	3
						Av. M.P.N.	1,597	240	460	5,507	182
E	15	75	8	Sand & stones, no clams	1/21/53 to 8/13/53	No.Samples	15	3	3	4	5
						Av. M.P.N.	1,464	176	795	243	4,643
E_1	7	2,400	7	Sand & stones, no clams	6/25/53 to 8/13/53	No.Samples	7	1	1	2	3
						Av. M.P.N.	5,476	11,000	2,400	1,015	7,490
E_2	5	930	5	Sand & stones, no clams	7/14/53 to 8/13/53	No.Samples	5	2		1	2
						Av. M.P.N.	770	1,015		430	865
F	13	23	2	Sand below stones, no clams	1/21/53 to 7/29/53	No.Samples	13	3	3	3	4
						Av. M.P.N.	41	27	25	95	23
FF	1	230	1	Creek, no clams	7/14/53	No.Samples	1	1			
						Av. M.P.N.	230	230			
G	8	16	2	Stones, no clams	1/21/53 to 5/4/53	No.Samples	8	2	2	2	2
						Av. M.P.N.	77	6	242	13	48
G_1	4	8		Sand, no clams	6/25/53 to 7/14/53	No.Samples	4	1	1	1	1
						Av. M.P.N.	9	> 9	14	< 4	> 7
Rockland											
A	14	43	4	Wide gravel flats, some clams	1/23/53 to 8/10/53	No.Samples	14	4	3	3	4
						Av. M.P.N.	208	33	405	31	362
Rockport											
A	13	14	4	Small flats, some clams	1/23/53 to 7/28/53	No.Samples	13	3	3	3	4
						Av. M.P.N.	51	65	4	119	17
B	17	23	3	Ledge, no clams	1/23/53 to 7/28/53	No.Samples	17	4	4	4	5
						Av. M.P.N.	102	310	72	6	20
B_1	3	23	1	Gravel & rock, no clams	7/28/53 to 8/10/53	No.Samples	3	1		1	1
						Av. M.P.N.	169	23		460	23
C	16	93	11	Gravel & rock, very few clams	1/23/53 to 8/11/53	No.Samples	16	4	4	4	4
						Av. M.P.N.	205	100	108	278	332
CC	1	23		Stream	4/17/53	No.Samples	1				
						Av. M.P.N.	23				
D	18	23	6	Wide flats, some clams	1/23/53 to 8/13/53	No.Samples	18	5	4	4	5
						Av. M.P.N.	162	35	23	396	193

Tabulated Results of Test Data Compiled on Tidal Flats

Sta. No.	No. Samples	Median M.P.N.	Samp. > 70 M.P.N.	Remarks	Test Period		Station	Breakdown for stages of tide			
								½Ebb	Low	½Flood	High
Rockport (cont'd)											
E	14	26	6	Gravel & rock, no clams	1/23/53 to 8/10/53	No. Samples	14	4	3	3	4
						Av. M.P.N.	506	384	92	373	1,176
Camden											
A	7	23		Ledges, no clams	1/23/53 to 5/20/53	No. Samples	7	2	1	2	2
						Av. M.P.N.	20	13	43	23	13
A_1	4	33	1	Rocky, no clams	7/28/53 to 8/12/53	No. Samples	4		1	1	2
						Av. M.P.N.	95		240	23	23
B	16	93	10	Rocky, no clams	1/23/53 to 8/13/53	No. Samples	16	4	4	4	4
						Av. M.P.N.	212	296	68	416	67
C	16	68	8	Soft flats, few clams	1/23/53 to 8/13/53	No. Samples	16	4	4	4	4
						Av. M.P.N.	164	352	134	41	127
D	1	> 9		Rocky, no clams	1/23/53	No. Samples	1			1	
						Av. M.P.N.	> 9			> 9	
D_1	4	1,615	4	Public beach, no clams	7/11/53 to 8/13/53	No. Samples	4	1	1	1	1
						Av. M.P.N.	1,640	930	930	2,400	2,300
D_2	4	1,900	4	Public beach, no clams	7/11/53 to 8/13/53	No. Samples	4	1	1	1	1
						Av. M.P.N.	6,450	1,500	11,000	> 11,000	2,300
E	12	240	8	Ledge & rock, no clams	1/23/53 to 6/13/53	No. Samples	12	3	3	3	3
						Av. M.P.N.	328	210	109	744	248

TIDAL FLAT AND COASTAL AREA

OF BASIN 17

See Maps No. 5 & 5A

On the pages immediately following is the data on work done in Basin 17 (Penobscot) which is in Waldo County. Work in Basin 16 A which is in Knox and Lincoln Counties has preceded this portion of the report.

Lincolnville

This town has a relatively short shoreline. The only stream of consequence is Ducktrap River, which is unpolluted. There are no large clam flat areas.

There is a good public beach in front of the village of Lincolnville Beach, and a tidal creek crosses the highway near the center of the village. There are several houses, stores and a summer restaurant which probably pollute this creek. Except at the village the shoreline of the town has not been developed much as yet.

Northport

There is a very small native population to be found near tidewater in this town. However, there are summer colonies at Bayside and at Temple Heights and scattered cottages all along the shoreline, which is generally steep and rugged. At Bayside the summer population is probably more than 1000, mostly within a very small area. The crowded village has public water and sewers. At Temple Heights the population during the summer season is perhaps about 200, though it is not readily apparent what proportion of this may be served by sewers to tidewater.

Belfast

Most of the shoreline of Belfast lies within the closed clam flat area #32. Considerable quantities of fresh water enter Belfast Bay from Passagassawakeag River and Wescot Stream at Head Tide and from Goose River opposite the built up section of the city. Little River, which is the source of the public water supply, enters tidewater at the Northport town line.

About two miles of shoreline between the Searsport town line and Patterson Point, and lying outside the closed area, has been highly developed. There are several large groups of cabins and a trailer park for the tourist trade, and there are also some private cottages. While sewers are not apparent from these developments, the efficiency of the sewer systems needs investigation during the season that these facilities are in use. The shoreline is generally wide and gravelly. There once were clams, but now very few remain.

Belfast City Park lies within the closed area and initial tests show the tidewater there to be quite highly polluted. This city has a public sewer system which discharges into tidewater without treatment. A sardine factory and two poultry slaughter houses also pollute the harbor. Near the southern limit of the closed area there is quite a group of summer cottages.

Near the mouth of Little River, which is the source of the public water supply for Belfast, is found a small clam flat area. Little River forms the Belfast-Northport town line. At times there is no flow to tidewater and at others, especially in the spring, the flow is considerable.

Searsport

The plant of Summers Fertilizer Company and Northern Chemical Industries is located east of Kidder Point, and industrial waste from their processes enters the western part of Stockton Harbor.

Clam flats are to be found west of this industrial plant near Sears Island and in Long Cove. A small stream enters the head of Long Cove.

The shorefront near the village of Searsport is within closed area #33. The village is served by a sewer system which enters tidewater without treatment. One fair size stream flows through the village to the harbor bringing considerable quantities of fresh water. At the eastern end of the closed area at

Macks Point there are the railroad terminal, large docking facilities and a group of oil storage depots under various ownership. At the western end of the closed area is the newly created State Park at Moose Point. West of Moose Point there is some clam digging along a gravel shore but the area exposed is not large. One small stream enters tidewater in this area.

Stockton Springs

The area north of Fort Point is within the closed clam flat area #35 and previous tests show the waters to be considerably polluted by coliform organisms. From the Prospect town line to the village of Sandy Point the shore is steep, rocky and practically unoccupied. At the village a small stream, Stomers Meadow Brook enters Mill Cove. This passes close to several houses and stores and undoubtedly receives some sewage and possibly old oil from two filling stations. South of Mill Cove the shore becomes sandy as the name of the village suggests. Just below the village is a plant of Summers Fertilizer Company. From its pier are dumped such waste materials as broken bags, and wet or spoiled fertilizer materials in considerable quantities. There is no wet industrial process at this plant however.

Just below this factory there is a small colony of summer cottages at Sandy Point. There seems to be no sewage discharged to the river from these cottages. Continuing on around the point into Fort Point Cove there are a few scattered camps. In this cove is located an old sardine factory which has not operated for many years. This cove has wide sticky flats, but apparently fine clams.

West of Fort Point the shoreline of Cape Jefferson is occupied only by scattered cottages, but further development seems likely. The shore is not easily reached, but there is some clam digging along this coastline.

The inner part of Stockton Harbor was once within a closed area (#34), but is now open. While the closed area was not very large, the whole thing is a wide, soft flat.

The village of Stockton Springs has no public sewer system, but it does have public water. It appears that some sewage reaches the harbor by way of a small stream which reaches tidewater just to the west of the old village landing and outside of what was the boundary of the closed area. Clam diggers have been observed working throughout the inner section of Stockton Harbor.

Islesboro

This island is located in the middle of Penobscot Bay. It has no industry. There is a large summer population and some of the estates are very large, while others are only camps.

There are many areas of fine clam flats and it is evident that many diggers work on the nearby islands as well.

The island apparently gets the wash from the Penobscot River as it sets directly in the channel to the sea. Both salinity and coliform tests seem to bear this out and some tests run surprisingly high considering the remote location of the island.

PENOBSCOT RIVER BASIN & ADJ. COASTAL AREA

Tabulated Results of Test Data Compiled on Tidal Waters

Sta. No.	No. Samples	Median M.P.N.	Samp. >70 M.P.N.	Remarks	Test Period		Station	Breakdown for stages of tide			
								½Ebb	Low	½Flood	High
Lincolnville											
A	13	93	9	Small flats, few clams	1/23/53 to 6/7/53	No.Samples	13	3	4	3	3
						Av. M.P.N.	211	448	46	236	112
B	21	43	10	Sand beach, no clams	1/23/53 to 8/12/53	No.Samples	21	4	5	6	6
						Av. M.P.N.	760	287	64	2,300	388
BB	6	5,200	6	Tidal creek, no clams	1/23/53 to 7/17/53	No.Samples	6				
						Av. M.P.N.	22,267				
C	9	43	4	Gravel & stones, no clams	6/26/53 to 8/12/53	No.Samples	9	1	2	3	3
						Av. M.P.N.	268	43	557	62	401
Northport											
A	19	93	11	Rocky, no clams	1/25/53 to 8/11/53	No.Samples	19	4	5	5	5
						Av. M.P.N.	406	28	1,021	279	296
A_1	1	930	1	Water at low tide	7/17/53	No.Samples	1		1		
						Av. M.P.N.	930		930		
A_n	1	430	1	Rocky, no clams	7/31/53	No.Samples	1			1	
						Av. M.P.N.	430			430	
A_s	1	150	1	Rocky, no clams	7/31/53	No.Samples	1			1	
						Av. M.P.N.	150			150	
B	19	43	8	Firm flats, some clams	1/25/53 to 8/11/53	No.Samples	19	4	5	5	5
						Av. M.P.N.	210	142	142	251	304
B_1	6	33	2	Rocky, no clams	6/26/53 to 8/12/53	No.Samples	6	1	1	3	1
						Av. M.P.N.	140	240	240	12	43
C	19	43	6	Rocky shore, no clams	1/25/53 to 8/12/53	No.Samples	19	4	6	4	5
						Av. M.P.N.	126	65	41	328	68
D	17	43	8	Small flats, very few clams	2/2/53 to 8/6/53	No.Samples	17	4	4	4	5
						Av. M.P.N.	171	473	33	114	65
E	2	26		Rocky, no clams	1/25/53 & 4/29/53	No.Samples	2	1	1		
						Av. M.P.N.	26	> 9	43		
F	9	< 4	1	Sandy beach below rocks no clams	1/23/53 to 6/4/53	No.Samples	9	1	3	2	3
						Av. M.P.N.	18	< 4	12	48	10
Belfast											
A	19	43	8	Gravel flats, a few clams	1/25/53 to 8/11/53	No.Samples	19	4	5	5	5
						Av. M.P.N.	72	88	43	71	72
B	12	122	9	Rocky shore, no clams	2/2/53 to 6/9/53	No.Samples	12	3	3	3	3
						Av. M.P.N.	162	161	119	53	313
C	10	>1,100	10	Rocky shore, very few clams	1/25/53 to 8/11/53	No.Samples	10	2	3	2	3
						Av. M.P.N.	2,011	780	5,353	>1,100	810
D	13	240	11	Rocks & gravel, a few clams	3/7/53 to 7/17/53	No.Samples	13	3	4	3	3
						Av. M.P.N.	301	165	377	442	460
E	19	93	11	Wide flats, some clams	1/25/53 to 8/11/53	No.Samples	19	4	5	5	5
						Av. M.P.N.	163	79	55	326	194
F	3	460	3	Rocky mouth of river, no clams	3/7/53 to 4/18/53	No.Samples	3		2	1	
						Av. M.P.N.	600		350	1,100	
Searsport											
A	9	23	2	Rocky shore, no clams	1/25/53 to 5/11/53	No.Samples	9	2	2	3	2
						Av. M.P.N.	50	23	132	18	45

Tabulated Results of Test Data Compiled on Tidal Waters

Sta. No.	No. Samples	Median M.P.N.	Samp. > 70 M.P.N.	Remarks	Test Period		Station	Breakdown for steges of tide			
								1/2 Ebb	Low	1/2 Flood	High
Searsport (cont'd)											
B	9	23	2	Good flats, some clams	1/25/53 to 5/11/53	No.Samples	9	2	2	3	2
						Av. M.P.N.	84	58	33	30	240
C	9	23	1	Wide flats soft & sticky, few clams	1/25/53 to 5/11/53	No.Samples	9	2	2	3	2
						Av. M.P.N.	74	242	33	23	25
CC	1	< 4		Stream	3/21/53	No.Samples	1				
						Av. M.P.N.	< 4				
D	12	122	8	Wide firm flats with ooze way out, few clams	1/25/53 to 6/9/53	No.Samples	12	3	3	3	3
						Av. M.P.N.	244	478	59	248	189
EE	2	3,500	2	Stream	3/7/53 & 5/16/53	No.Samples	2				
						Av. M.P.N.	3,500				
E_1	1	93	1	Stream	5/16/53	No.Samples	1				
						Av. M.P.N.	93				
F	19	93	11	Small sandy flats, few clams	1/25/53 to 8/11/53	No.Samples	19	4	5	5	5
						Av. M.P.N.	200	105	248	350	95
F_1	1	> 9		Rocky	7/31/53	No.Samples	1			1	
						Av. M.P.N.	> 9			> 9	
Stockton Springs											
A	13	240	8	Rocks & boulders no clams	1/25/53 to 7/31/53	No.Samples	13	3	4	3	3
						Av. M.P.N.	293	314	192	199	461
B	13	23	3	Gravel & rocks, few clams	1/25/53 to 7/31/53	No.Samples	13	3	4	3	3
						Av. M.P.N.	65	30	16	102	112
C	12	58	6	Wide soft flats, few clams & worms	1/25/53 to 6/9/53	No.Samples	12	3	3	3	3
						Av. M.P.N.	137	131	281	47	89
D	12	43	5	Soft flats, few clams lots of worms	1/25/53 to 6/9/53	No.Samples	12	3	3	3	3
						Av. M.P.N.	270	813	25	43	199
DD	2	251	1		3/7/53 & 5/3/53	No.Samples	2				
						Av. M.P.N.	251				
DD_1	1	14		Stream	5/3/53	No.Samples	1				
						Av. M.P.N.	14				
Islesboro											
A	8	16	1	Rocks & stones, no clams	5/6/53 to 7/21/53	No.Samples	8	2	2	2	2
						Av. M.P.N.	23	14	58	16	6
B	8	6	1	Soft flats, firm edges, few clams	5/6/53 to 7/21/53	No.Samples	8	2	2	2	2
						Av. M.P.N.	20	6	48	13	13
C	8	9	1	Rocky, some clams	5/6/53 to 7/21/53	No.Samples	8	2	2	2	2
						Av. M.P.N.	69	3	242	23	9
D	13	43	6	Gravel beach above flats, some clams	5/6/53 to 7/21/53	No.Samples	13	3	5	3	2
						Av. M.P.N.	132	106	257	46	117
E	13	93	7	Rocky, no clams	5/6/53 to 7/21/53	No.Samples	13	3	5	3	2
						Av. M.P.N.	145	119	293	109	58
F	13	23	3	Wide sandy flats, clams plentiful	5/6/53 to 7/21/53	No.Samples	13	3	5	3	2
						Av. M.P.N.	34	50	34	14	39
G	13	39	3	Broken rock & flats, very few clams	5/6/53 to 7/21/53	No.Samples	13	3	5	3	2
						Av. M.P.N.	93	27	253	35	58
H	13	93	6	Small firm flats, few clams	5/6/53 to 7/21/53	No.Samples	13	3	5	3	2
						Av. M.P.N.	59	53	85	65	33

Tabulated Results of Test Data Compiled on Tidal Waters

Sta. No.	No. Samples	Median M.P.N.	Samp. >70 M.P.N.	Remarks	Test Period		Station	Breakdown for stages of tide ½Ebb	Low	½Flood	High
Islesboro (cont'd)											
I	13	43	5	Wide flats, sandy muck some clams	5/6/53 to 7/21/53	No.Samples	13	3	5	3	2
						Av. M.P.N.	148	209	118	15	252
J	13	23	4	Stones, no clams	5/6/53 to 7/21/53	No.Samples	13	3	5	3	2
						Av. M.P.N.	54	63	66	29	58
K	13	43	5	Wide area good flats, clams plentiful	5/6/53 to 7/21/53	No.Samples	13	3	5	3	2
						Av. M.P.N.	106	92	107	157	68
L	13	23	4	Flats of soft ooze, no clams	5/6/53 to 7/21/53	No.Samples	13	3	5	3	2
						Av. M.P.N.	91	158	67	82	58
M	13	23	4	Small flats, some clams	5/6/53 to 7/21/53	No.Samples	13	3	5	3	2
						Av. M.P.N.	91	119	106	7	132
N	9	23	2	Wide area of ooze few clams around edges	5/6/53 to 7/21/53	No.Samples	9	2	3	2	2
						Av. M.P.N.	39	95	17	6	39
O	8	9		Wide area of muck, very few clams	5/6/53 to 7/21/53	No.Samples	8	2	2	2	2
						Av. M.P.N.	14	16	2	6	33
P	12	15	3	Ledges & small rocks, few clams	5/12/53 to 7/21/53	No.Samples	12	3	4	3	2
						Av. M.P.N.	40	57	15	10	77
Q	12	33	5	Cove all ooze covered with vegetation, a few clams	5/6/53 to 7/21/53	No.Samples	12	3	4	3	2
						Av. M.P.N.	76	67	86	27	122
R	13	23	4	Soft ooze, firm edges some clams	5/6/53 to 7/21/53	No.Samples	13	3	4	4	2
						Av. M.P.N.	233	60	26	282	562
S	13	43	6	Small flats, very few clams	5/6/53 to 7/21/53	No.Samples	13	3	4	4	2
						Av. M.P.N.	170	448	137	27	68
North Haven											
A	2	< 3		Samples taken from boat, no opportunity to inspect shore	2/17/53 & 2/20/53	No.Samples	2		1		1
						Av. M.P.N.	≤ 3		< 3		< 3
B	2	6		"	2/17/53 & 2/20/53	No.Samples	2		1		1
						Av. M.P.N.	6		> 9		3
C	2	< 4		"	2/17/53 & 2/20/53	No.Samples	2		1		1
						Av. M.P.N.	< 4		< 4		< 4
D	2	< 3		"	2/17/53 & 2/20/53	No.Samples	2		1		1
						Av. M.P.N.	< 3		< 4		< 3
E	2	6		"	2/17/53 & 2/20/53	No.Samples	2		1		1
						Av. M.P.N.	6		< 3		> 9
F	2	< 4		"	2/17/53 & 2/20/53	No.Samples	2		1	1	
						Av. M.P.N.	< 4		< 4	< 4	
G	1	< 3		"	2/17/53	No.Samples	1			1	
						Av. M.P.N.	< 3			< 3	
H	2	< 3		"	2/17/53 & 2/20/53	No.Samples	2		1	1	
						Av. M.P.N.	< 3		< 3	< 3	
I	2	< 3		"	2/17/53 & 2/20/53	No.Samples	2		1	1	
						Av. M.P.N.	< 3		< 3	< 4	
J	2	< 3		"	2/17/53 & 2/20/53	No.Samples	2		1	1	
						Av. M.P.N.	< 3		< 3	< 3	
K	1	> 9		"	2/17/53	No.Samples	1			1	
						Av. M.P.N.	> 9			> 9	
L	2	< 3		"	2/17/53 & 2/20/53	No.Samples	2		1	1	
						Av. M.P.N.	< 3		< 3	< 3	

Tabulated Results of Test Data Compiled on Tidal Waters

Sta. No.	No. Samples	Median M.P.N.	Samp. > 70 M.P.N.	Remarks	Test Period		Station	Breakdown for stages of tide			
								Ebb	Low	Flood	High
North Haven (cont'd)											
M	1	< 4		Samples taken from boat, no opportunity to inspect shore.	2/17/53	No.Samples	1			1	
						Av. M.P.N.	< 4			< 4	
N	3	< 4		"	2/5/53 to 2/20/53	No.Samples	3		1	1	1
						Av. M.P.N.	5		< 3	< 4	> 9
NN	1	< 3		"	2/17/53	No.Samples	1			1	
						Av. M.P.N.	< 3			< 3	
O	2	3		"	2/5/53 & 2/20/53	No.Samples	2		1		1
						Av. M.P.N.	3		> 4		3
P	2	48	1	"	2/5/53 & 2/20/53	No.Samples	2		1		1
						Av. M.P.N.	48		93		< 3
Q	2	232	1	"	2/5/53 & 2/20/53	No.Samples	2		1		1
						Av. M.P.N.	232		460		< 4
R	2	< 3		"	2/6/53 & 2/20/53	No.Samples	2		1	1	
						Av. M.P.N.	< 3		< 3	< 3	
RR	1	< 3		"	2/6/53	No.Samples	1		1		
						Av. M.P.N.	< 3		< 3		
S	2	6		"	2/6/53 & 2/20/53	No.Samples	2		1	1	
						Av. M.P.N.	6		< 4	> 9	
T	2	< 3		"	2/6/53 & 2/20/53	No.Samples	2			2	
						Av. M.P.N.	< 3			< 3	
U	2	< 3		"	2/6/53 & 2/20/53	No.Samples	2			2	
						Av. M.P.N.	< 3			< 3	
V	1	< 3		"	2/6/53	No.Samples	1				1
						Av. M.P.N.	< 3				< 3
W	2	< 3		"	2/6/53 & 6/20/53	No.Samples	2			1	1
						Av. M.P.N.	< 3			< 3	< 3
X	2	< 3		"	2/6/53 & 2/20/53	No.Samples	2			1	1
						Av. M.P.N.	< 3			< 4	< 3
Y	2	< 3		"	2/6/53 & 2/20/53	No.Samples	2			1	1
						Av. M.P.N.	< 3			< 3	< 3
Z	2	< 3		"	2/6/53 & 2/20/53	No.Samples	2			1	1
						Av. M.P.N.	< 3			3	< 3
Vinalhaven											
A	2	< 3		"	2/6/53 & 2/19/53	No.Samples	2			1	1
						Av. M.P.N.	< 3			< 3	< 3
AA	2	< 3		"	2/5/53 & 2/19/53	No.Samples	2		1		1
						Av. M.P.N.	< 3		< 3		3
B	1	< 3		"	2/6/53	No.Samples	1			1	
						Av. M.P.N.	< 3			< 3	
BB	2	3		"	2/5/53 & 2/19/53	No.Samples	2		1		1
						Av. M.P.N.	3		< 3		< 4
C	2	13		"	2/6/53 & 2/19/53	No.Samples	2			1	1
						Av. M.P.N.	13			< 3	23
CC	2	58	1	"	2/5/53 & 2/19/53	No.Samples	2			1	1
						Av. M.P.N.	58			93	23

Tabuleted Results of Test Data Compiled on Tidal Waters

Sta. No	Samples	Median M.P.N.	Samp. > 70 M.P.N.	Remarks	Test Period		Station	Breakdown for stages of tide			
								½Ebb	Low	½Flood	High
Vinalhaven (cont'd)											
D	2	< 3		Samples taken from boat, no opportunity to inspect shore	2/6/53 & 2/19/53	No.Samples	2			1	1
						Av. M.P.N.	< 3			< 3	< 3
DD	2	> 555	1	"	2/5/53 & 2/19/53	No.Samples	2			1	1
						Av. M.P.N.	> 555			> 1,100	> 9
E	1	< 3		"	2/6/53	No.Samples	1			1	
						Av. M.P.N.	< 3			< 3	
EE	2	26		"	2/5/53 & 2/19/53	No.Samples	2			1	1
						Av. M.P.N.	26			43	> 9
F	2	3		"	2/6/53 & 2/19/53	No.Samples	2			1	1
						Av. M.P.N.	< 3			< 3	< 4
FF	2	87	1	"	2/5/53 & 2/19/53	No.Samples	2			1	1
						Av. M.P.N.	87			150	23
F_2	1	< 4		"	2/6/53	No.Samples	1			1	
						Av. M.P.N.	< 4			< 4	
G	2	3		"	2/6/53 & 2/19/53	No.Samples	2			1	1
						Av. M.P.N.	< 3			< 3	< 4
GG	2	132	1	"	2/5/53 & 2/19/53	No.Samples	2			1	1
						Av. M.P.N.	132			23	240
H	1	< 3		"	2/6/53	No.Samples	1			1	
						Av. M.P.N.	< 3			< 3	
HH	2	26		"	2/5/53 & 2/19/53	No.Samples	1			1	1
						Av. M.P.N.	23			> 9	43
I	1	< 3		"	2/6/53	No.Samples	1			1	
						Av. M.P.N.	< 3			< 3	
II	2	32		"	2/5/53 & 2/19/53	No.Samples	2			1	1
						Av. M.P.N.	32			43	21
J	1	< 3		"	2/6/53	No.Samples	1		1		
						Av. M.P.N.	< 3		< 3		
K	2	< 3		"	2/6/53 & 2/19/53	No.Samples	2		1		1
						Av. M.P.N.	< 3		< 3		< 3
KK	2	< 3		"	2/6/53 & 2/19/53	No.Samples	8			1	1
						Av. M.P.N.	< 3			< 3	< 3
L	2	< 3		"	2/6/53 & 2/19/53	No.Samples	2		1		1
						Av. M.P.N.	< 3		< 3		< 4
LL	2	< 3		"	2/6/53 & 2/19/53	No.Samples	2			2	
						Av. M.P.N.	< 3			< 3	
M	2	< 3		"	2/6/53 & 2/19/53	No.Samples	2		1		1
						Av. M.P.N.	< 3		< 3		< 3
MM	2	< 3		"	2/6/53 & 2/19/53	No.Samples	2			2	
						Av. M.P.N.	< 3			< 3	
N	1	< 4		"	2/19/53	No.Samples	1				1
						Av. M.P.N.	< 4				< 4
O	2	< 3		Samll flats	2/5/53 & 2/19/53	No.Samples	2				2
						Av. M.P.N.	< 3				< 3
P	2	< 3		"	2/5/53 & 2/19/53	No.Samples	2		1		1
						Av. M.P.N.	< 3		< 4		< 3
Q	1	< 3		"	2/5/53	No.Samples	1				1
						Av. M.P.N.	< 3				< 3

Tabulated Results of Test Data Compiled on Tidal Waters

Sta. No.	No. Samples	Median M.P.N.	Samp. > 70 M.P.N.	Remarks	Test Period		Station	Breakdown for stages of tide ½Ebb	Low	½Flood	High
Vinalhaven (cont'd)											
R	1	< 3		Small flats	2/5/53	No.Samples	1				1
						Av. M.P.N.	< 3				< 3
S	2	< 3		"	2/5/53 & 2/19/53	No.Samples	2		1		1
						Av. M.P.N.	< 3		< 3		< 3
T	2	< 3		"	2/5/53 & 2/19/53	No.Samples	2		1		1
						Av. M.P.N.	< 3		< 3		< 3
U	2	< 3		Wide soft flats, some clams	2/5/53 & 2/19/53	No.Samples	2			1	1
						Av. M.P.N.	< 3			< 3	< 3
V	1	< 3		"	2/5/53	No.Samples	1				1
						Av. M.P.N.	< 3				< 3
W	2	< 3		"	2/5/53 & 2/19/53	No.Samples	2		1		1
						Av. M.P.N.	< 3		< 3		< 3
X	1	3		"	2/5/53	No.Samples	1				1
						Av. M.P.N.	3				3
Y	2	< 3		"	2/5/53 & 2/19/53	No.Samples	2		1	1	
						Av. M.P.N.	< 3		< 4	< 3	
Z	2	24		"	2/5/53 & 2/19/53	No.Samples	2		1	1	
						Av. M.P.N.	24		39	> 9	

TIDAL FLAT AND COASTAL AREA

OF BASIN 18

See Map No. 6

In November, 1952, the tidewater survey was extended to that section of Maine coastline from Machias to Sullivan and the trailer laboratory was moved to Milbridge, which was selected as headquarters for this work.

This section of coast is very irregular and deeply indented by bays, tidewater river inlets, coves and creeks. There are no large rivers in this part of the state, but minor rivers and fair size streams enter tidewater at the head of many of the coves and bays. The Narraguagus River and Pleasant River are the two largest rivers while Chandler River and Tunk Stream are somewhat smaller but may be considered as principal streams in this area.

Industry in the towns making up this coastal area is principally based upon fish, shellfish, blueberries and lumber. There are sardine packing factories at Machiasport, Jonesport, Addison, Milbridge and Gouldsboro and some other fish or shellfish packing is done at Jonesboro, Jonesport, Milbridge and Gouldsboro. Blueberry canning or freezing is done by plants at Columbia Falls, Columbia, Harrington and Cherryfield. Sawmills are located on the Pleasant River at Columbia Falls and on the Narraguagus River at Cherryfield. Both are near the head of tidewater.

As one progresses westward more and more development of shore property for summer use is noted. Small colonies of summer houses have been established in Harrington at Dewey and in Milbridge and Steuben. There are a considerable number of summer estates scattered along the shores of Sullivan and Gouldsboro, while the summer populations of Winter Harbor and Sorrento may equal or exceed the native or year around population. In these last named towns the cottages become larger as well as more numerous.

A brief description of this area, town by town, starting at Machias Bay and continuing westward follows. However, it was necessary to abandon this phase of sampling at the end of January due to failure of utilities at the Milbridge site, and since no other adequate trailer parking was available the trailer was moved to Rockland and work begun in Waldo, Knox, and Lincoln counties.

Sullivan

This town lies on both sides of Sorrento. East of Sorrento two fair sized streams enter Flanders Bay and west of Sorrento two small streams enter Sullivan Harbor while several larger streams enter the waters of the inner bays in Franklin and Hancock. Vast quantities of water rush in and out past Sullivan Falls to fill and empty the wide areas of Egypt, Taunton and Hog Bays. There is a very marked lag in the tides of high and low tide within these bays (several hours at Franklin).

There are wide flats in several coves, especially in Flanders Bay.

Except for a shellfish dealer at West Sullivan there is no industry to pollute the waters.

There are numerous summer estates, cottages and cabins along the Sullivan shoreline. Private sewers are quite numerous but widely scattered.

Sorrento

This town occupies a point of land and there are no real streams in the town. The summer population is very large compared to the native population. There is a shucking house near the village, but no other industry.

Part of the shoreline is closed to clam digging (closed area #50), but the sewers serving the year-round residents enter Back Cove which is outside the closed area. The highly developed shoreline has many sewers entering tidewater, and other summer estates are scattered about the town, most of them served by sewers to the water.

There are some clam flat areas in the coves, but much of the shoreline is rocky.

Gouldsboro

This is a large town with a long broken shoreline extending on both sides of the Town of Winter Harbor. Several villages are located in separate parts of the town. There are some scattered summer houses but no concentrated resort areas.

Three medium sized streams provide the principal sources of fresh water. One enters the head of the bay at Gouldsboro village, one enters tidewater at Prospect Harbor and the third at West Gouldsboro.

Prospect Harbor is the largest village. There are several private sewers to the shore and also a sardine factory and other fish wharves. The harbor is a closed clam flat area (#52) but there are only small areas of flats within this harbor.

Corea is a village devoted largely to lobster fishing. Some sewers enter its well protected harbor. There are some flats within the harbor, and they are littered with debris and generally messy. There is a very fine but small beach outside the harbor. There are some summer properties near this village.

At Birch Harbor two streams enter the head of the inlet. There are soft sticky flats in the cove. Only a very few houses are close enough to the shore to cause pollution and the presence of sewers is doubtful.

Bunkers Harbor is small, having a lobster pound at the head of the inlet. There are several summer properties and a few sewers, but no flats.

Wonsqueak Harbor has two small streams entering the head of the cove. There are practically no flats and only one small camp along the shore.

At South Gouldsboro a canning factory packs shellfish, clam chowder and other fish products.

Winter Harbor

Most of the shoreline of this town is rough and rugged, much of it lying within Acadia National Park. There are some clam flats in certain sections however, and near the village an area (#51) has been closed to digging.

There is a large increase in population in the summer. The summer property is mainly on Grindstone Neck and several sewers serving the area discharge at widely separated points on both sides of the neck.

A U. S. Naval Radio Station is located in the national park near Schoodie Point, and a sewer serving this installation discharges on the east side of the point.

Only one small stream of any consequence enters tidewater in this town.

Steuben

This town also has a long shoreline broken by many coves, and there are many areas where wide flats are exposed.

The village is located near the head of Joys Bay. Tunk Stream enters the head of this bay bringing considerable quantities of fresh water. Whitten Stream is a much smaller stream which enters this same bay at the western boundary of the town.

There has been some development of summer property on Dyers Bay between Overs Cove and Birch Head. A few private sewers enter tidewater here and there are a very few at Pigeon Hill, and at Steuben village a very few may reach the stream indirectly.

Cherryfield

The Narraguagus River enters tidewater at Cherryfield bringing with it the domestic sewage of many persons in Cherryfield. Two blueberry factories and a sawmill in Cherryfield also contribute pollution as does the dumping of refuse.

Milbridge

This town also has a long broken shoreline and wide areas of exposed flats at low tide. The village lies within a closed clam flat area (#53) and at the mouth of the Narraguagus River, which extends as a tidal inlet several miles inland to the village of Cherryfield.

The village has public water, but while sewers cover much of the built up section they are of a semi-public nature. There are two sardine factories at the village. There is also a canning factory at Wyman which packs clams and other fish products.

The Narraguagus River is the principal source of fresh water while Beaver Meadow Brook is a smaller stream entering Back Bay.

There are several productive clam flats in this town especially near Rays Point, and clam digging is carried on commercially by a number of citizens.

Harrington

This town has a long shoreline and many wide coves and inlets. The principal stream entering tidewater is Harrington River which is also the principal tidal inlet. Other smaller streams enter at the village and at Flat Bay.

Wide flats are found in several sections of the town and smaller ones in many places. Clam digging is a major occupation for quite a number of citizens.

Addison

This town has a very long shoreline which is broken by many bays and coves particularly the tidal section of Pleasant River. The centers of population are at South Addison on Cape Split Harbor and at Addison on the Pleasant River and at Indian River at the Jonesport town line. A small summer colony has grown up on Cape Split facing Pleasant Bay. At each of these settlements the amount of pollution is limited to a few private sewers. These sewers reach the shore except at Addison where wide tidal marsh land was once diked to develop hay meadows. Here the few sewers apparently only enter this low, flat marsh land, and drainage reaches the water indirectly.

The sardine factory at Addison located on the west side of the river is the only industrial pollution source in this town, but this factory while operating produces the major portion of the pollution originating in this town.

There are many areas where wide tidal flats are exposed at low water, but many of these appear to be unsuited for clams. Some are very soft while others, especially along the river, are firm but of clay-like material. Some traces of sawdust were observed.

Columbia

The town of Columbia has little tidal water. A branch of the Pleasant River entering tidewater carries seepage from a limited agricultural area, a cluster of houses at Columbia, a blueberry cannery, and the pollution otherwise normal to a wilderness stream of flat gradient.

Columbia Falls

Pleasant River enters tidewater at Columbia Falls at the village which forms the center of population. The sawmill of Hathaway Bros. is located at the head of tide, and a dam provides a log pond and some power for the mill. Until recently all waste sawdust and shavings went into the water, and apparently some waste is still disposed of in this manner. In tidewater the river winds through low marshy land, and this portion of the river is not easily approached, but is unattractive and the flats are bedded with sawdust well down the river. Productive clam flats seem very unlikely but a few private sewers and the sewer of a school enter the river above the head of tide.

Jonesport

Compared to other towns in the area the shoreline of Jonesport is fairly regular. There are few inlets and no large streams.

The village of the town, including West Jonesport, is stretched out for about three miles bordering Moosabec Reach. Across the reach lies the village of Beals.

The town has no public sewer system, but many private sewers reach the shore. There are three factories which pack sardines, and at least one of these operates throughout the year packing other fish products.

Jonesboro

The village of this town is located at the head of tide on Chandler River. The river is relatively unpolluted above the head of tidewater. A few private sewers probably enter the river in tidewater. One small canning factory and shucking house is located on the east side of the river below the village.

There are wide areas of exposed clam flats at low water in Chandler River and in Mason Bay.

Roque Bluffs

The population of this town is small and its shoreline is not extensively occupied. There are several summer properties. There is a good beach close to the highway. There are no industries.

The town has some areas of clam flats, especially along Englishman River. There is a small stream with a long tidal estuary which enters the ocean near the village.

A small dump has become established on the shore of Pond Cove, near the creek at the head of the cove.

MACHIAS RIVER BASIN & ADJ. COASTAL AREA

Tabulated Results of Test Data Compiled on Tidal Flats

Sta. No.	No. Samples	Median M.P.N.	Samp. > 70 M.P.N.	Remarks	Test Period		Station	Breakdown for stages of tide			
								½Ebb	Low	½Flood	High
Sullivan											
D	1	460	1	Soft flats, clams scarce	12/13/52	No.Samples	1	1			
						Av. M.P.N.	460	460			
F	1	240	1	Rocky shore, no clams	12/13/52	No.Samples	1	1			
						Av. M.P.N.	240	240			
G	1	7		Gravel flats	12/13/52	No.Samples	1	1			
						Av. M.P.N.	7	7			
H	1	240	1	Rocky shore	12/13/52	No.Samples	1	1			
						Av. M.P.N.	240	240			
Sorrento											
A	2	37		Sand & Silt, no clams	12/13/52 & 12/15/52	No.Samples	2	1	1		
						Av. M.P.N.	37	9	64		
B	2	142	1	Small flats	12/13/52 & 12/15/52	No.Samples	2	1	1		
						Av. M.P.N.	142	240	43		
C	2	58	1	Gravel & rocks, no clams	12/13/52 & 12/15/52	No.Samples	2	1	1		
						Av. M.P.N.	58	23	93		
D	2	267	2	Small flats	12/13/52 & 12/15/52	No.Samples	2	1	1		
						Av. M.P.N.	267	460	73		
E	2	557	1	Rocky, no clams	12/13/52 & 12/15/52	No.Samples	2	1	1		
						Av. M.P.N.	557	> 1,100	14		
F	1	9		Rocky, no clams	12/13/52	No.Samples	1	1			
						Av. M.P.N.	9	9			
Gouldsboro											
A	3	> 7		Muck & rock, very few clams	12/12/52 to 1/7/53	No.Samples	3	1	1	1	
						Av. M.P.N.	8	< 4	14	> 7	
B	1	240		Stream	12/12/52	No.Samples	1				
						Av. M.P.N.	240				
C	2	80	1	Tidewater stream	12/12/52 & 1/7/53	No.Samples	2				
						Av. M.P.N.	80				
D	2	16		Soft flats, a few clams	12/14/52 & 1/7/53	No.Samples	2		1	1	
						Av. M.P.N.	16		> 9	23	
E	3	< 4		Rock & sand, no clams	12/12/52 to 1/7/53	No.Samples	3	1	1	1	
						Av. M.P.N.	10	< 4	< 3	23	
F	3	240	3	Sandy & muck, a few clams	12/12/52 to 1/7/53	No.Samples	3	1	1	1	
						Av. M.P.N.	440	150	930	240	
G	3	240	3	Gravel & muck, no clams	12/12/52 to 1/7/53	No.Samples	3	1	1	1	
						Av. M.P.N.	525	> 1,100	230	240	
H	3	200	3	Gravel, no clams	12/12/52 to 1/7/53	No.Samples	3	1	1	1	
						Av. M.P.N.	464	1,100	200	93	
J	2	23		Sand beach, no clams	12/12/52 & 1/7/53	No.Samples	2	1		1	
						Av. M.P.N.	23	43		< 4	
K	3	< 4		Ledges, no clams	12/12/52 to 1/7/53	No.Samples	3	1	1	1	
						Av. M.P.N.	10	< 4	23	< 3	
L	1	93	1	Stream	12/12/52	No.Samples	1				
						Av. M.P.N.	93				
M	3	39	1	Beach stones, no clams	12/12/52 to 1/7/53	No.Samples	3	1	1	1	
						Av. M.P.N.	101	240	23	39	
N	3	> 9		Soft flats, a few clams	12/13/52 to 1/7/53	No.Samples	3		1	1	1
						Av. M.P.N.	> 9		> 9	< 4	14

Tabulated Results of Test Data Compiled on Tidal Flats

Sta. No.	No. Samples	Median M.P.N.	Samp. > 70 M.P.N.	Remarks	Test Period		Station	Breakdown for stages of tide ±Ebb	Low	±Flood	High
Gouldsboro (Cont'd)											
O	3	150	2	Rocky shore, no clams	12/13/52 to 1/7/53	No.Samples	3		1	1	1
						Av. M.P.N.	101		150	< 4	150
P	3	93	2	Rocks & silt, no clams	12/13/52 to 1/7/53	No.Samples	3		1	1	1
						Av. M.P.N.	79		93	120	23
Q	2	25		Rocks & gravel, no clams	12/13/52 & 12/15/52	No.Samples	2	1	1		
						Av. M.P.N.	25	43	> 7		
S	2	48	1	Soft flats, a few clams	12/13/52 & 12/15/52	No.Samples	2	1	1		
						Av. M.P.N.	48	93	< 4		
T	2	25		Wide flats, soft to fine some clams	12/13/52 & 12/15/52	No.Samples	2	1	1		
						Av. M.P.N.	25	43	> 7		
U	2	48	1	Wide flats, soft ooze some clams	12/13/52 & 12/15/52	No.Samples	2	1	1		
						Av. M.P.N.	48	93	< 3		
Winter Harbor											
A	1	< 3		Small gravel flats, a few clams	12/7/53	No.Samples	1		1		
						Av. M.P.N.	< 3		< 3		
B	3	93	2	Rocky, no clams	12/13/52 to 1/7/53	No.Samples	3		1	1	1
						Av. M.P.N.	76		43	93	93
C	3	< 4		Soft flats, a few clams	12/13/52 to 1/7/53	No.Samples	3	1	1	1	
						Av. M.P.N.	10	23	< 4	< 3	
D	3	3		Ledge & rock, no clams	12/13/52 to 1/7/53	No.Samples	3	1	1	1	
						Av. M.P.N.	5	3	9	3	
E	3	23		Small flats, some clams	12/13/52 to 1/7/53	No.Samples	3	1	1	1	
						Av. M.P.N.	30	23	43	23	
F	2	43		Sand & gravel, no clams	12/13/52 to 12/15/52	No.Samples	2	1	1		
						Av. M.P.N.	43	43	43		
G	2	33		Ledge & rock, no clams	12/13/52 & 12/15/52	No.Samples	2	1	1		
						Av. M.P.N.	33	23	43		
H	2	6		Rocky & ledges no clams	12/13/52 & 12/15/52	No.Samples	2	1	1		
						Av. M.P.N.	6	9	< 3		
I	2	6			12/13/52 & 12/15/52	No.Samples	2	1	1		
						Av. M.P.N.	6	9	3		
Steuben											
A	2	12		Gravel & rock, no clams	12/8/52 & 12/14/52	No.Samples	2	1	1		
						Av. M.P.N.	12	< 4	21		
B	2	570	1	Soft muck, few clams	12/8/52 & 12/14/52	No.Samples	2	1	1		
						Av. M.P.N.	570	39	> 1,100		
B_1	1	1,100	1	Tidewater creek	12/8/52	No.Samples	1				
						Av. M.P.N.	1,100				
C	2	122	1	Rocky with small flats, very few clams	12/8/52 & 12/14/52	No.Samples	2	1	1		
						Av. M.P.N.	122	< 4	240		
D	1	> 9		Gravel & rock, no clams	1/7/53	No.Samples	1		1		
						Av. M.P.N.	> 9		> 2		
E	1	23		Gravel & silt, no clams	1/7/53	No.Samples	1		1		
						Av. M.P.N.	23		23		
F	2	15		Gravel & silt, no clams	12/12/52 & 1/7/53	No.Samples	2	1		1	
						Av. M.P.N.	15	14		16	
H	1	43		Stream	12/12/52	No.Samples	1				
						Av. M.P.N.	43				

Tabulated Results of Test Data Compiled on Tidal Flats

Sta. No.	No. Samples	Median M.P.N.	Samp. > 70 M.P.N.	Remarks	Test Period		Station	Breakdown for stages of tide: ½Ebb	Low	½Flood	High
Cherryfield											
A	2	5,715	2	Rocky & clay, no clams	12/8/52 & 1/5/53	No.Samples	2				
						Av. M.P.N.	5,715				
A_1	2	277	2	Stream	12/8/52 & 12/14/52	No.Samples	2				
						Av. M.P.N.	277				
Milbridge											
A	3	460	2	Small soft flats, some clams	8/17/52 to 1/5/53	No.Samples	3	1	1	1	
						Av. M.P.N.	1,691	14	4,600	460	
B	4	26	1	Sandy & soft, few clams	8/17/52 to 1/7/53	No.Samples	4	1	2	1	
						Av. M.P.N.	614	> 9	1,202	43	
C	3	43	1	Wide flats of muck, few clams	8/17/52 to 1/5/53	No.Samples	3	1	1	1	
						Av. M.P.N.	327	> 7	930	43	
E	2	597	2	Rocks, ledges & gravel no clams	12/8/52 & 12/14/52	No.Samples	2	1	1		
						Av. M.P.N.	597	93	1,100		
F	2	665	2	Soft flats, all ooze very few clams	12/8/52 & 12/14/52	No.Samples	2	1	1		
						Av. M.P.N.	665	230	> 1,100		
G	3	460	3	Small sandy flats, a few clams	12/8/52 to 1/7/53	No.Samples	3	1	2		
						Av. M.P.N.	730	230	980		
H	2	5,730	3	Soft ooze, a few clams	12/8/52 & 12/14/52	No.Samples	2	1	1		
						Av. M.P.N.	5,730	460	> 11,000		
I	1	> 1,100	1	Tidal creek	12/8/52	No.Samples	1				
						Av. M.P.N.	> 1,100				
I_1	1	> 1,100	1	Stream	12/8/52	No.Samples	1				
						Av. M.P.N.	> 1,100				
J	2	597	2	Rocks & ledge, no clams	12/8/52 & 12/14/52	No.Samples	2	1	1		
						Av. M.P.N.	597	93	> 1,100		
Harrington											
A	2	51	1	Flats of gravel & silt, some clams	12/7/52 & 1/5/53	No.Samples	2		1		1
						Av. M.P.N.	51		93		> 9
B	2	16		Very wide flats, clams plentiful	12/7/52 & 1/5/53	No.Samples	2			1	1
						Av. M.P.N.	16			29	< 3
C	2	48	1	Small flats, a few clams	12/7/52 & 1/5/53	No.Samples	2			1	1
						Av. M.P.N.	48			93	< 3
D	2	9		Rocky, no clsms	12/7/52 & 1/5/53	No.Samples	2			1	1
						Av. M.P.N.	9			14	< 4
E	2	122	1	Very wide flats of ooze very few clams	12/7/52 & 1/5/53	No.Samples	2			1	1
						Av. M.P.N.	122			240	< 4
F	2	597	2	Soft flats, very few clams	12/7/52 & 1/5/53	No.Samples	2			1	1
						Av. M.P.N.	597			1,100	93
G	2	97	1	Gravel, no clams	12/7/52 & 1/5/53	No.Samples	2				
						Av. M.P.N.	97				
H	2	670	2	Stream in tidewater	12/7/52 & 1/5/53	No.Samples	2				
						Av. M.P.N.	670				
I	2	> 1,100	2	Tidewater, clay banks	12/7/52 & 1/6/53	No.Samples	2				
						Av. M.P.N.	> 1,100				
I_1	2	152	1	Tidewater marsh & banks	12/7/52 & 1/6/53	No.Samples	2				
						Av. M.P.N.	152				

Tabulated Results of Test Data Compiled on Tidal Flats

Sta. No.	No. Samples	Median M.P.N.	Samp. > 70 M.P.N.	Remarks	Test Period		Station	Breakdown for stages of tide ½Ebb	Low	½Flood	High
Harrington (cont'd)											
J	2	49	1	Gravel & muck, some clams	12/7/52 & 1/5/53	No.Samples	2			1	1
						Av. M.P.N.	49			75	23
K	2	125	1	Soft flats, a few clams	12/7/52 & 1/5/53	No.Samples	2	1		1	
						Av. M.P.N.	125	> 9		240	
L	1	1,100		Marsh & clay banks, no clams	12/7/52	No.Samples	1			1	
						Av. M.P.N.	1,100			1,100	
Addison											
A	2	278	2	Rocky shore, no clams	12/5/52 & 12/10/52	No.Samples	2			1	1
						Av. M.P.N.	278			460	75
B	1	93	1	Ledge, gravel & silt, no clams	12/5/52	No.Samples	1			1	
						Av. M.P.N.	93			93	
C	1	15		Stream, no clams	12/5/52	No.Samples	1			1	
						Av. M.P.N.	15			15	
D	2	26		Gravel between ledges, very few clams	12/5/52 & 12/10/52	No.Samples	2		1	1	
						Av. M.P.N.	26		43	> 9	
D_1	1	> 9		All ooze, very few clams	12/5/52	No.Samples	1			1	
						Av. M.P.N.	> 9			> 9	
E	1	< 4		Very soft, a few clams	12/5/52	No.Samples	1			1	
						Av. M.P.N.	< 4			< 4	
F	2	< 3		Very soft, very few clams	12/5/52 & 12/10/52	No.Samples	2		1	1	
						Av. M.P.N.	< 3		< 3	> 3	
G	2	132	1	Gravel & ledge, very few clams	12/5/52 & 12/10/52	No.Samples	2		1	1	
						Av. M.P.N.	132		240	23	
H	2	26		Very wide & soft flats, very few clams	12/5/52 & 12/10/52	No.Samples	2		1	1	
						Av. M.P.N.	26		> 9	43	
I	2	13		Sand & rock, no clams	12/5/52 & 12/10/52	No.Samples	2		1	1	
						Av. M.P.N.	13		23	< 3	
J	2	6		Ledge & silt, a few clams	12/5/52 & 12/10/52	No.Samples	2		1	1	
						Av. M.P.N.	6		> 9	< 3	
K	2	68	1	Flats of clay, no clams	12/5/52 & 12/10/52	No.Samples	2		1	1	
						Av. M.P.N.	68		93	43	
L	2	235	2	River banks, no clams	12/5/52 & 12/10/52	No.Samples	2		1	1	
						Av. M.P.N.	235		230	240	
M	2	562	1	Gravel & flats, no clams	12/7/52 & 1/5/53	No.Samples	2		1		1
						Av. M.P.N.	562		1,100		23
Columbia Falls											
A	2	765	2	Tidewater, no clams	12/5/52 & 12/10/52	No.Samples	2				
						Av. M.P.N.	765				
Jonesport											
A	2	33		Gravel & muck flats, some clams	12/5/52 & 12/10/52	No.Samples	2		1	1	
						Av. M.P.N.	33		23	43	
B	2	23		Sand beach, no clams	12/5/52 & 12/10/52	No.Samples	2		1	1	
						Av. M.P.N.	23		23	23	
C	2	3		Rocky & sand, no clams	12/5/52 & 12/10/52	No.Samples	2		1	1	
						Av. M.P.N.	3		3	< 3	

Tabulated Results of Test Data Compiled on Tidal Flats

Sta. No.	No. Samples	Median M.P.N.	Samp. > 70 M.P.N.	Remarks	Test Period		Station	Breakdown for stages of tide			
								½Ebb	Low	½Flood	High
Jonesport (cont'd)											
D	2	42	1	Small flats, some clams	12/5/52 & 12/10/52	No.Samples	2		1	1	
						Av. M.P.N.	42		75	> 9	
E	2	33		Wide soft flats, a few clams	12/5/52 & 12/10/52	No.Samples	2		1	1	
						Av. M.P.N.	33		23	43	
Jonesboro											
A	3	75	2	Gravel & muck flats, clams scarce	12/4/52 to 1/6/53	No.Samples	3			1	2
						Av. M.P.N.	395			1,100	42
B	3	93	2	Small flats, clams scarce	12/4/52 to 1/6/53	No.Samples	3			1	2
						Av. M.P.N.	125			240	68
C	3	430	3	Tidal river, no clams	12/4/52 to 1/6/53	No.Samples	3			1	2
						Av. M.P.N.	541			430	597
D	3	93	2	Wide gravel flats, a few clams	12/4/52 to 1/6/53	No.Samples	3			1	2
						Av. M.P.N.	65			93	51
Roque Bluffs											
A	3	< 4		Rock & sand, a few clams	12/4/52 to 1/6/53	No.Samples	3			1	2
						Av. M.P.N.	9			< 4	12
B	3	< 4		Sand beach, no clams	12/4/52 to 1/6/53	No.Samples	3			1	2
						Av. M.P.N.	17			43	3
C	3	23	1	Gravel & sandy flats, some clams	12/4/52 to 1/6/53	No.Samples	3			1	2
						Av. M.P.N.	40			93	13
D	3	> 9		Sand beach, no clams	12/4/52 to 1/6/52	No.Samples	3			1	2
						Av. M.P.N.	12			> 9	13
E	3	< 3		Sand, no clams	12/4/52 to 1/6/53	No.Samples	3			1	2
						Av. M.P.N.	10			23	< 3
F	3	43	1	Soft flats, a few clams	12/4/52 to 1/6/53	No.Samples	3			1	2
						Av. M.P.N.	395			> 1,100	43
Machias											
A	3	> 9		Sand & muck, a few clams	12/4/52 to 1/6/53	No.Samples	3		1	1	1
						Av. M.P.N.	11		14	> 9	> 9
Machiasport											
A	7	23	3	Wide area of muck, few clams	10/13/52 to 11/17/52	No.Samples	7	2	1	3	1
						Av. M.P.N.	88	15	> 7	191	< 3
B	8	< 4	2	Wide firm flats, clams plentiful	10/13/52 to 11/17/52	No.Samples	8	2	2	3	1
						Av. M.P.N.	280	4	< 3	755	23
C	6	780	6	Small gravel & muck flats, some clams	10/13/52 to 11/13/52	No.Samples	6	1	1	3	1
						Av. M.P.N.	655	1,100	75	887	93
D	4	350	4	Wide soft flats, clams scarce	10/13/52 to 11/4/52	No.Samples	4	1		2	1
						Av. M.P.N.	313	460		277	240
E	3	230	3	Wide sandy flats, clams plentiful	12/4/52 to 1/6/53	No.Samples	3		1	2	
						Av. M.P.N.	204		230	191	
F	3	460	3	Wide soft flats, clams plentiful	12/4/52 to 1/6/53	No.Samples	3		1	2	
						Av. M.P.N.	597		230	780	

Tabulated Results of Test Data Compiled on Tidal Flats

Sta. No.	No. Samples	Median M.P.N.	Samp. > 70 M.P.N.	Remarks	Test Period		Station	Breakdown for stages of tide			
								½Ebb	Low	½Flood	High
Machiasport (cont'd)											
G	3	23	1	Sand & gravel, some clams	12/4/52 to 1/6/53	No.Samples	3		1	2	
						Av. M.P.N.	46		23	58	
H	1	14			1/6/53	No.Samples	1			1	
						Av. M.P.N.	14			14	
I	3	47	1	Gravel, no clams	12/4/52 to 1/6/53	No.Samples	3		1	2	
						Av. M.P.N.	109		240	43	
J	2	33		Gravel, clams scarce	12/4/52 to 12/9/52	No.Samples	2		1	1	
						Av. M.P.N.	33		43	23	
K	3	23		Beach stones, no clams	12/4/52 to 1/6/53	No.Samples	3		1	2	
						Av. M.P.N.	16		23	13	
L	3	< 4		Small flats of sand, some clams	12/4/52 to 1/1/53	No.Samples	3		1	2	
						Av. M.P.N.	< 4		< 4	< 4	
LL	1	23		Tidal creek	12/9/52	No.Samples	1		1		
						Av. M.P.N.	23		23		
East Machias											
A	3	930	3	Rocky, no clams	10/17/52 to 10/22/52	No.Samples	3		1	1	1
						Av. M.P.N.	830		930	> 1,100	460
Whiting											
A	8	350	6	Flats, gravel & wood mash, some clams	8/13/52 to 11/19/52	No.Samples	8	2	2	2	2
						Av. M.P.N.	431	670	268	552	235
B	4	780	3	Stream	7/22/52 to 10/14/52	No.Samples	4				
						Av. M.P.N.	676				
C	7	23	3	Wide flats, very few clams	10/13/52 to 11/17/52	No.Samples	7	2	1	3	1
						Av. M.P.N.	61	39	< 3	34	240
C_1	1	240	1	Wide flats, very few clams	10/22/52	No.Samples	1				1
						Av. M.P.N.	240				240
CC	2	150	2	Tidal creek	10/4/52 & 10/13/52	No.Samples	2				
						Av. M.P.N.	150				
Cutler											
A	10	113	6	Flats of sand & silt some clams	9/10/52 to 11/17/52	No.Samples	10	3	3	2	2
						Av. M.P.N.	144	241	106	122	77
AA	1	460	1		11/4/52	No.Samples	1				
						Av. M.P.N.	460				
B	10	240	8	Rocky, no clams	9/10/52 to 11/17/52	No.Samples	10	3	3	2	2
						Av. M.P.N.	296	264	168	54	780
B_1	1	43		Rocky, no clams	10/27/52	No.Samples	1			1	
						Av. M.P.N.	43			43	
C	10	240	9	Sand & gravel, no clams	9/10/52 to 11/17/52	No.Samples	10	3	3	2	2
						Av. M.P.N.	396	313	454	587	240
D	2	23		Stream	9/10/52 & 9/18/52	No.Samples	2				
						Av. M.P.N.	23				
E	10	43	4	Soft flats, very few clams	9/10/52 to 11/18/52	No.Samples	10	3	3	2	2
						Av. M.P.N.	86	94	86	127	33
F	10	16	2	Very small flats, few clams	9/10/52 to 11/17/52	No.Samples	10	3	3	2	2
						Av. M.P.N.	63	162	11	42	13

Tabulated Results of Test Data Compiled on Tidal Flats

Sta. No.	No. Samples	Median M.P.N.	Samp. > 70 M.P.M.	Remarks	Test Period		Station	Breakdown for stages of tide			
								½Ebb	Low	½Flood	High
Cutler (cont'd)											
G	7	< 4		Rock & sand, no clams	9/13/52 to 11/17/52	No.Samples	7	3	2	1	1
						Av. M.P.N.	10	9	3	14	23
H	7	43	3	Fine wide flats, clams plentiful	9/13/52 to 11/17/52	No.Samples	7	3	2	1	1
						Av. M.P.N.	202	52	597	21	43
HH	3	150	2	Tidal creek	9/27/52 to 11/17/52	No.Samples	3				
						Av. M.P.N.	144				
I	6	> 3		Very large flats, some clams	9/13/52 to 11/13/52	No.Samples	6	2	1	2	1
						Av. M.P.N.	10	23	< 3	3	< 4
J	6	> 9	I	Very large area of ooze, some clams	9/13/52 to 11/13/52	No.Samples	6	1	1	3	1
						Av. M.P.N.	24	93	< 3	14	< 4
Trescott											
A	2	43		Stream	7/22/52 to 9/5/52	No.Samples	2				
						Av. M.P.N.	43				
C	2	13		Wide soft flats, few clams	9/5/52 & 9/15/52	No.Samples	2	1		1	
						Av. M.P.N.	13	< 3		23	
D	8	19	2	Soft flats, few clams	9/10/52 to 11/4/52	No.Samples	8	2	?	2	2
						Av. M.P.N.	54	33	167	9	9
DD	1	460	1	Stream	11/4/52	No.Samples	1				
						Av. M.P.N.	460				
E	7	< 4		Very wide sandy flats, few clams in places	9/10/52 to 10/27/52	No.Samples	7	1	2	2	2
						Av. M.P.N.	6	< 3	3	9	6
EE	1	460	1	Stream	11/4/52	No.Samples	1				
						Av. M.P.N.	460				
Lubec											
A	8	6	2	Wide area of ooze some clams	9/5/52 to 11/15/52	No.Samples	8	2	2	2	2
						Av. M.P.N.	50	48	6	23	122
B	7	> 9	2	Wide flats of muck, some clams	9/5/52 to 11/15/52	No.Samples	7	2	1	2	2
						Av. M.P.N.	58	167	< 3	9	26
C	6	33		Very long soft flats, some clams	9/5/52 to 11/15/52	No.Samples	6	2		2	2
						Av. M.P.N.	24	15		13	43
D	8	19	2	Rocky & gravel, few clams	9/5/52 to 11/15/52	No.Samples	8	2	2	2	2
						Av. M.P.N.	208	562	9	235	26
E	7	> 7	1	Beach rock, no clams	9/5/52 to 10/30/52	No.Samples	7	2	2	2	1
						Av. M.P.N.	33	13	23	77	> 7
F	8	147	5	Rocky & muck, few clams	9/5/52 to 11/15/52	No.Samples	8	2	2	2	2
						Av. M.P.N.	125	195	124	97	83
G	8	43	2	Wide flats of ooze, few clams	9/5/52 to 11/15/52	No.Samples	8	2	2	2	2
						Av. M.P.N.	65	33	68	132	29
H	8	460	6	Rock and organic waste, no clams	9/5/52 to 10/30/52	No.Samples	8	2	3	2	1
						Av. M.P.N.	542	780	562	277	> 1,100
I	7	43	3	Gravel & muck, few clams	9/5/52 to 11/15/52	No.Samples	7	2	1	2	2
						Av. M.P.N.	143	225	43	15	237
J	8	> 9	2	Wide flats of ooze below rocky shore, some clams	7/22/52 to 10/30/52	No.Samples	8	2	3	2	1
						Av. M.P.N.	75	48	7	242	< 3
K	7	460	5	Very wide flats, clams plentiful	9/15/52 to 11/15/52	No.Samples	7	2	2	1	2
						Av. M.P.N.	489	350	32	460	1,100

Tabulated Results of Test Data Compiled on Tidal Flats

Sta. No.	No. Samples	Median M.P.N.	Samp. > 70 M.P.N.	Remarks	Test Period		Station	Breakdown for stages of tide			
								½Ebb	Low	½Flood	High
Lubec (cont'd)											
L	9	93	6	Very wide flats, clams plentiful	7/22/52 to 11/15/52	No.Samples	9	3	1	2	3
						Av. M.P.N.	306	70	> 9	122	764
M	9	23	2	Very wide flats, some clams	7/22/52 to 10/30/52	No.Samples	9	3	2	2	2
						Av. M.P.N.	148	20	13	610	13
N	7	> 9	2	Very wide flats, clams plentiful	7/22/52 to 11/15/52	No.Samples	7	3	1	1	2
						Av. M.P.N.	65	19	< 4	150	124
O	10	43	4	Very wide flats, clams plentiful	7/22/52 to 11/15/52	No.Samples	10	4	2	2	2
						Av. M.P.N.	116	92	< 3	268	127
OO	2	469	1	Tidal creek	9/7/52 to 9/15/52	No.Samples	2				
						Av. M.P.N.	469				
P	6	< 3		Wide sandy flats, clams plentiful	7/14/52 to 10/5/52	No.Samples	6	1	2	1	2
						Av. M.P.N.	11	< 3	< 3	43	6
Q	6	< 4		Wide flats, some clams	7/14/52 to 10/30/52	No.Samples	6	2	1	1	2
						Av. M.P.N.	10	33	< 4	< 3	23
R	5	< 4		Wide flats, some clams	7/22/52 to 10/27/52	No.Samples	5	1		2	2
						Av. M.P.N.	6	< 4		3	9
S	6	9		Rocky, very few clams	7/14/52 to 10/5/52	No.Samples	6	1	2	1	2
						Av. M.P.N.	18	14	3	43	23
T	9	> 9	4	Fine sand beach, no clams	7/14/52 to 11/15/52	No.Samples	9	3	2	2	2
						Av. M.P.N.	75	112	3	39	125
U	6	6		Rocks & sand, no clams	9/10/52 to 10/30/52	No.Samples	6	1	1	2	2
						Av. M.P.N.	14	< 3	23	3	26
V	6	3		Beach stones, no clams	9/10/52 to 10/30/52	No.Samples	6	1	1	2	2
						Av. M.P.N.	3	< 3	4	3	3
W	8	< 4		Wide sandy flats, clams plentiful	9/10/52 to 10/27/52	No.Samples	8	1	2	2	3
						Av. M.P.N.	9	< 3	3	3	19
X	11	93	7	Wide sand beach, no clams	9/10/52 to 11/15/52	No.Samples	11	4	2	2	3
						Av. M.P.N.	166	64	122	58	405
Edmunds											
A	12	35	5	Soft flats, clams scarce	8/11/52 to 11/19/52	No.Samples	12	3	2	4	3
						Av. M.P.N.	175	136	132	297	125
B	1	< 3		Small flats, some clams	8/11/52	No.Samples	1		1		
						Av. M.P.N.	< 3		< 3		
C	7	7		Rocky & soft, few clams	8/13/52 to 10/27/52	No.Samples	7	2	1	3	1
						Av. M.P.N.	13	15	< 3	11	23
CC	1	75	1	Tidal stream	9/25/52	No.Samples	1			1	
						Av. M.P.N.	75			75	
D	7	> 9		Wide flats sand & silt some clams	8/13/52 to 10/27/52	No.Samples	7	2	1	3	1
						Av. M.P.N.	12	23	< 3	5	23
E	6	7		Ledge & rock, clams scarce	8/13/52 to 10/14/52	No.Samples	6	2	1	2	1
						Av. M.P.N.	9	6	< 3	8	23
F	4	33	1	Gravel & silt, a few clams	8/13/52 to 10/28/52	No.Samples	4	3	1		
						Av. M.P.N.	134	175	> 9		
F_2	1	43		Gravel, no clams	9/25/52	No.Samples	1		1		
						Av. M.P.N.	43		43		
G	7	23	1	Small areas of muck a few clams	8/16/52 to 10/4/52	No. Samples	7	2	2	1	2
						Av. M.P.N.	31	23	48	23	26

Tabulated Results of Test Data Compiled on Tidal Flats

Sta. No.	No. Samples	Median M.P.N.	Samp. >70 M.P.N.	Remarks	Test Period		Station	Breakdown for stages of tide ½Ebb	Low	½Flood	High
Edmunds (cont'd)											
H	11	43	5	Sand, muck & shavings some clams	8/13/52 to 11/19/52	No.Samples	11	4	2	2	3
						Av. M.P.N.	143	48	93	33	375
Dennysville											
A	12	79	6	Wide flats, clay & ooze, few clams	8/11/52 to 11/19/52	No.Samples	12	3	3	3	3
						Av. M.P.N.	210	461	175	109	95
B	6	1,300	6	Tidal river	8/11/52 to 10/14/52	No.Samples	6	1	2	1	2
						Av. M.P.N.	3,232	4,600	5,546	1,500	1,100
Pembroke											
A	6	3		Wide soft flats, clams plentiful	7/30/52 to 10/4/52	No.Samples	6	2	1	1	2
						Av. M.P.N.	10	< 3	< 4	23	13
B	6	6		Flats of rock splinter some clams	8/4/52 to 9/28/52	No.Samples	6	2	1	1	2
						Av. M.P.N.	12	6	43	> 9	< 3
C	6	15		Rocky or deep ooze very few clams	7/30/52 to 9/28/52	No.Samples	6	2	2	1	1
						Av. M.P.N.	20	3	23	23	43
D	9	> 9	3	Very wide & soft flats very few clams	8/4/52 to 11/19/52	No.Samples	9	3		3	3
						Av. M.P.N.	75	33		5	187
E	11	93	7	Soft ooze, few clams	8/4/52 to 11/19/52	No.Samples	11	3	2	3	3
						Av. M.P.N.	227	162	597	82	191
G	10	1,100	9	Clay & rock,no clams	8/4/52 to 11/5/52	No.Samples	10	3	2	2	3
						Av. M.P.N.	863	877	1,100	250	1,100
GG	1	93	1	Stream	9/25/52	No.Samples	1				
						Av. M.P.N.	93				
H	8	290	7	Rocks & muck, no clams	8/4/52 to 11/5/52	No.Samples	8	3		2	3
						Av. M.P.N.	350	318		68	570
J	12	68	6	Wide flats, clams plentiful	8/4/52 to 11/19/52	No.Samples	12	3	3	3	3
						Av. M.P.N.	208	113	89	96	534
K	12	19	4	Small flats, some clams	8/4/52 to 11/19/52	No.Samples	12	3	3	3	3
						Av. M.P.N.	177	3	88	89	528
L	12	9	4	Rocky & sandy, clams plentiful	8/4/52 to 11/19/52	No.Samples	12	3	3	3	3
						Av. M.P.N.	78	35	9	108	161
M	6	6		All type flats, some clams	8/4/52 to 9/28/52	No.Samples	6	2	1	1	2
						Av. M.P.N.	6	6	4	9	6
N	6	3		Rock & sand, clams plentiful	8/4/52 to 9/28/52	No.Samples	6	2	1	1	2
						Av. M.P.N.	7	6	< 4	< 3	13
O	7	> 9	1	Cove all soft muck very few clams	8/4/52 to 10/26/52	No.Samples	7	2	1	1	3
						Av. M.P.N.	165	13	> 9	< 4	371
P	7	14	1	Soft flats, very few clams	8/4/52 to 10/26/52	No.Samples	7	2	1	1	3
						Av. M.P.N.	172	6	> 7	14	389
Q	7	23	1	Soft ooze very few clams	8/4/52 to 10/26/52	No.Samples	7	2	2	1	2
						Av. M.P.N.	31	19	48	43	19
QQ	1	93	1	Stream	9/28/52	No.Samples	1				
						Av. M.P.N.	93				
Eastport											
A	6	6		Sandy flats, some clams	7/25/52 to 9/27/52	No.Samples	6	1	3	1	1
						Av. M.P.N.	14	< 3	18	< 4	23

Tabulated Results of Test Data Compiled on Tidal Flats

Sta No	No. Samples	Median M.P.N.	Samp. > 70 M.P.N.	Remarks	Test Period		Station	Breakdown for stages of tide			
								½Ebb	Low	½Flood	High
Eastport (cont'd)											
B	13	14	4	Wide sandy flats, few clams	7/25/52 to 11/5/52	No.Samples	13	3	4	3	3
						Av. M.P.N.	90	163	48	7	157
C	6	43		Gravel flats, no clams	7/25/52 to 9/27/52	No.Samples	6	1	3	1	1
						Av. M.P.N.	34	43	36	> 9	43
D	13	93	8	Sandy flats, some clams	7/25/52 to 11/5/52	No.Samples	13	3	4	3	3
						Av. M.P.N.	233	95	209	472	164
E	13	43	5	Small flats, a few clams	7/25/52 to 11/5/52	No.Samples	13	3	4	3	3
						Av. M.P.N.	88	23	186	46	50
F	7	4,300	7	Flats a mess, no clams	7/24/52 to 10/11/52	No.Samples	7	3		3	1
						Av. M.P.N.	5,646	3,273		9,533	1,100
G	8	695	7	Rocky & muck, no clams	7/24/52 to 10/11/52	No.Samples	8	3	1	3	1
						Av. M.P.N.	1,028	807	73	1,755	460
H	8	1,015	8	Wide sandy flats, some clams	7/24/52 to 10/11/52	No.Samples	8	3	1	3	1
						Av. M.P.N.	2,595	5,467	430	1,157	460
I	8	780	7	Small flats of gravel, a few clams	7/24/52 to 10/11/52	No.Samples	8	3	1	3	1
						Av. M.P.N.	2,163	3,851	2,100	1,138	240
J	12	33	5	Sand & gravel flats, a few clams	7/24/52 to 11/14/52	No.Samples	12	4	3	3	2
						Av. M.P.N.	155	125	84	399	15
K	12	68	6	Rocky, no clams	7/24/52 to 11/14/52	No.Samples	12	4	3	3	2
						Av. M.P.N.	281	239	400	23	572
L	8	6	1	Gravel, no clams	7/28/52 to 10/11/52	No.Samples	8	2	2	3	1
						Av. M.P.N.	68	25	6	7	460
M	12	9	4	Very wide flats ooze, & vegetation, a few clams	7/24/52 to 11/14/52	No.Samples	12	3	4	3	2
						Av. M.P.N.	205	406	279	9	48
N	9	43	4	Very wide soft flats, a few clams	8/1/52 to 11/5/52	No.Samples	9	3		3	3
						Av. M.P.N.	213	169		169	308
O	12	93	7	Rocky, no clams	7/28/52 to 11/14/52	No.Samples	12	3	4	3	2
						Av. M.P.N.	284	534	117	114	557
P	7	23	1	Wide flats, few clams	7/25/52 to 9/29/52	No.Samples	7	1	3	2	1
						Av. M.P.N.	29	23	7	58	43
Q	8	1,100	7	Wide flats, clams scarce	8/9/52 to 10/24/52	No.Samples	8	2		4	2
						Av. M.P.N.	767	665		870	1,100
R	11	43	5	Wide soft flats, some clams	8/9/52 to 11/14/52	No.Samples	11	3	2	4	2
						Av. M.P.N.	273	576	68	301	252
S	8	16	2	Wide flats rocks & ooze clams scarce	7/25/52 to 10/11/52	No.Samples	8	2	3	2	1
						Av. M.P.N.	78	9	162	13	93
Perry											
A	5	460	5	Stream	7/17/52 to 11/3/52	No.Samples	5				
						Av. M.P.N.	569				
AA	7	23	2	Wide sandy flats, some clams	9/22/52 to 11/18/52	No.Samples	7	2	2	1	2
						Av. M.P.N.	206	572	13	> 9	132
B	10	68	5	Wide gravel & sand some clams	7/17/52 to 11/18/52	No.Samples	10	3		4	3
						Av. M.P.N.	185	321		91	175
C	11	150	5	Wide sandy flats, some clams	7/17/52 to 11/18/52	No.Samples	11	3	1	4	3
						Av. M.P.N.	234	534	43	75	208
D	2	58	1	Wide sandy flats, some clams	7/14/52 to 7/26/52	No.Samples	2	1	1		
						Av. M.P.N.	58	93	23		

Tabulated Results of Test Data Compiled on Tidal Flats

Sta. No.	No. Samples	Median M.P.N.	Samp. >70 M.P.N.	Remarks	Test Period		Station	Breakdown for stages of tide ½Ebb	Low	½Flood	High
Perry (cont'd)											
E	13	43	5	Wide sandy flats, some clams	7/14/52 to 11/18/52	No.Samples	13	3	3	4	3
						Av. M.P.N.	100	183	23	79	125
F	9	43	3	Small rocky flats, a few clams	7/16/52 to 11/2/52	No.Samples	9	2	2	2	3
						Av. M.P.N.	88	232	50	33	54
G	7	14	1	Rock, gravel & muck, very few clams	7/16/52 to 10/19/52	No.Samples	7	1	1	2	3
						Av. M.P.N.	48	14	< 4	23	90
GG	1	< 4		Tidal creek, no clams	7/27/52	No.Samples	1		1		
						Av. M.P.N.	< 4		< 4		
H	7	> 9	1	Wide gravel flats, no clams	7/16/52 to 10/19/52	No.Samples	7	1	1	2	3
						Av. M.P.N.	78	460	< 4	6	23
I	2	> 1,100	2	Stream	7/19/52 & 9/6/52	No.Samples	2				
						Av. M.P.N.	> 1,100				
J	8	9	2	Rocky, no clams	7/16/52 to 11/1/52	No.Samples	8	2	2	2	2
						Av. M.P.N.	94	4	9	122	242
K	7	> 9		Small flats of muck, few clams	7/27/52 to 11/1/52	No.Samples	7	2	2	2	1
						Av. M.P.N.	16	26	3	23	< 3
L	8	43	2	Gravel bar no clams	7/16/52 to 11/1/52	No.Samples	8	2	2	2	2
						Av. M.P.N.	67	142	43	33	51
M	8	9	1	Rocky under silt, few clams	7/27/52 to 11/1/52	No.Samples	8	2	2	2	2
						Av. M.P.N.	23	9	51	26	6
MM	3	23		Tidal creek	8/8/52 to 9/6/52	No.Samples	3			2	1
						Av. M.P.N.	30			33	23
N	6	9		Sandy flats, some clams	7/16/52 to 9/27/52	No.Samples	6	1	2	2	1
						Av. M.P.N.	15	> 9	29	6	> 9
O	6	< 4		Rock, sand & muck few clams	7/16/52 to 9/27/52	No.Samples	6	1	2	2	1
						Av. M.P.N.	5	< 3	6	4	> 9
P	6	4		Sand & rock, some clams	7/16/52 to 9/27/52	No.Samples	6	1	2	2	1
						Av. M.P.N.	11	< 3	4	5	43
Q	9	14	2	Gravel & sand, no clams	7/25/52 to 10/28/52	No.Samples	9	2	3	1	3
						Av. M.P.N.	33	14	97	43	10
R	10	6	1	Wide flats sand & muck	7/25/52 to 10/30/52	No.Samples	10	3	3	1	3
						Av. M.P.N.	18	3	16	> 9	36
RR	5	23	1	Very soft flats, no clams	8/8/52 to 11/19/52	No.Samples	5	2		1	2
						Av. M.P.N.	240	33		> 9	562
S	8	23	2	Small flats of muck few clams	7/28/52 to 11/19/52	No.Samples	8	3	2	1	2
						Av. M.P.N.	161	35	16	23	562
T	9	23	2	Small flats of muck few clams	7/24/52 to 11/19/52	No.Samples	9	3	2	2	2
						Av. M.P.N.	35	57	23	33	13
U	7	< 3		Wide flats of ooze & sand, some clams	7/30/52 to 10/28/52	No.Samples	7	2	3	1	1
						Av. M.P.N.	10	< 3	37	< 3	> 9
V	9	< 3	2	Gravel & rock, no clams	7/30/52 to 10/28/52	No.Samples	9	2	3	2	2
						Av. M.P.N.	26	48	3	25	39
W	8	9	2	Wide flats soft & firm some clams	7/30/52 to 10/28/52	No.Samples	8	2	3	1	2
						Av. M.P.N.	174	13	336	14	122
X	7	43	2	Rocks & muck, no clams	8/18/52 to 11/5/52	No.Samples	7	1	1	2	3
						Av. M.P.N.	242	43	23	13	534
Y	6	6		Wide soft flats, very few clams	7/30/52 to 11/5/52	No.Samples	6	2	1	1	2
						Av. M.P.N.	7	12	< 3	< 4	3

Tabulated Results of Test Data Compiled on Tidal Flats

Sta. No.	No. Samples	Median M.P.N.	Samp. > 70 M.P.N.	Remarks	Test Period		Station	Breakdown for stages of tide ½Ebb	Low	½Flood	High
Perry (cont'd)											
Y_1	1	23		Wide soft flats, very few clams	9/4/52	No.Samples	1			1	
						Av. M.P.N.	23			23	
Z	9	23	3	Mucky flats, no clams	8/15/52 to 11/15/52	No.Samples	9	4	1	2	2
						Av. M.P.N.	194	20	> 9	277	552

Tidewater Pollution Data on Mt. Desert Island

Sta. No.	Town	Location	No. Samples	Test Period		pH	B.Coli. M.P.N.	Salinity
Blue Hill Bay								
1	Blue Hill	Shore at "Big Rock".	1	6/6/52	Min. Av. Max.	7.0	930	1,740
Mount Desert								
1	Mt.Desert	In front of stone pier, just East of swimming pool.	4	6/7/52 & 6/16/52	Min. Av. Max.		75 524 1,100	
2	Mt.Desert	Just west of swimming pool.	2	6/7/52 & 6/16/52	Min. Av. Max.		43 142 240	
3	Mt.Desert	In front of west end stone wall, west of swimming pool.	4	6/7/52 & 6/16/52	Min. Av. Max.		93 611 1,100	
4	Mt.Desert	End wharf of Branscom Coal Company.	4	6/7/52 & 6/16/52	Min. Av. Max.	8.0	460 780 1,100	
5	Mt.Desert	End pier of Yacht Club in Gilpatrick Cove.	4	6/7/52 & 6/16/52	Min. Av. Max.		4 58 150	
6	Mt.Desert	Clubhouse on pier.	1	6/16/52	Min. Av. Max.		14	
7	Mt.Desert	Isleford ferry dock.	1	6/16/52	Min. Av. Max.		43	
8	Mt.Desert	Seal Harbor Beach	1	6/16/52	Min. Av. Max.	8.0	< 3	

TIDAL FLAT AND COASTAL AREA OF BASIN NO. 18 (CONT.)

See Maps No. 6 & 6A

The following tidal flat and coastal data pertaining to the Machias River Basin and its adjacent area was accumulated during the period from July to November 1952, at the time that data on the St. Croix Basin was being accumulated. The area to which this section of the report pertains is roughly between the Machias - East Machias Rivers and the Robbinston - Perry town boundary.

Besides the St. Croix River, the Machias and East Machias Rivers are the principal rivers found in eastern Maine, each contributing large volumes of fresh water to the tidewater areas near their mouths. The Pennamaquan River, Dennys River and the Orange River are the other major streams between the St. Croix River and the East Machias River. All three discharge their waters into the vast area of tidal bays and inlets, which must fill and empty twice daily through the narrow passage between Eastport and Lubec. A tidal falls between Leighton Point in Pembroke and Denbow Point in Lubec causes a considerable lag in the time of high water and of low water within these bays. There is also a distinct time difference of high and low water at the head of tide at Calais and Machias, both of which are located at the head of deep bays, compared to the times of tidal change in the bays outside. The greatest tidal lag is found at the head of the network of bays at Dennysville and at Whiting. There the time difference seems to be nearly two hours. No attempt to check this accurately was made.

Throughout this entire area the many hundreds of miles of shoreline have been but little developed for summer resort property. While there are many isolated camps and cottages scattered through the area there are no concentrations of cottages.

The great increase in industrial activity during the summer and fall due to the packing of sardines probably directly influences the sanitary conditions in some areas. Sardine packing is restricted by law to the period between April and December. The industrial discharges and the sanitary wastes from these factories provide the major source of pollution in some areas. Industries of other types often experience a marked increase in activity due to the amount of waste fish available as a raw material from the sardine packing plants. This sort of waste is processed to produce fish meal, fertilizer, pearl essence, fire fighting foams and other products.

In addition to the sanitary wastes contributed by employees, the industrial wastes are often messy and obnoxious. The fish waste processing plants produce materials of especially strong pollutional qualities. While the sardine factories usually deny the discharge of wastes of objectionable nature, observation does not confirm their statements. Often the shoreline is saturated with oil, probably of vegetable origin, and decomposing organic matter, apparently bits of fish, are often visible at low water. Sometimes quantities of whole dead fish litter the bottom beneath the piers. The shores are often strewn with discarded sardine cans, packing materials, old machine parts, and papers from office waste baskets. The conditions resulting depend upon the location of the factories. Those in exposed locations show hardly any visible effects while those in sheltered coves result in an extremely unpleasant mess. At Prince Cove in Eastport, where a factory is located on each side of the mouth of the cove, conditions existing at the close of the packing season defy description. To fully appreciate the degree of harbor pollution possible from such factories one must observe this cove.

While the industry of this area is centered at Lubec and Eastport, Robbinston, Perry, Pembroke and Whiting each have one canning factory. This season there were about twenty active industries at Eastport and about fifteen active ones in Lubec. Most of the waste processing plants are in Eastport.

Some general information relating to the tidewaters of this section of the coast is outlined as follows town by town.

Machiasport

This town lies on both sides of Machias River. The coastline of the town consists of many very wide coves which are exposed as fine clam flats at low water.

Pollution is probably mostly from Machias and E. Machias at the head of tidewater on the two main branches of the river, but the village of Machiasport and two sardine factories are located on the west side of the tidewater section of the river. Each of the upper river flats are thick with old sawdust, and some of this may be found as far south as Larrabee Cove.

There is very little fresh water flowing from the land area of this town, and the few very small streams are unpolluted.

Machias

No open area in town of Machias.

East Machias

While there are small flats in this town they are not of significance. They are very soft and sticky and show little evidence of being productive. Private sewers serve much of the population centered around the head of tide of the East Machias River, and incoming tidal waters are already polluted to some degree by the Machias River.

Whiting

This town has a small tidewater shoreline near the mouth of Orange River and another bordering Holmes Bay.

Near the head of tide on the Orange River is located Crane's sawmill and box factory. Practically all of the wood waste from this mill falls directly into the stream. This includes sawdust, shavings and butt ends. These materials litter the shoreline and flats for long distances in Edmunds and Trescott as well as in Whiting.

Look's shucking house and canning factory is located on Holmes Bay near the road from Machias to Cutler. Practically all of the tidewaters of Holmes Bay lying within the town of Whiting recedes to become exposed flats at low water.

There is a lot of dumping of rubbish from bridges over a creek near the Whiting - Edmunds town line and to a stream entering Holmes Bay.

Cutler

Very extensive flats are found in Little Machias Bay and Holmes Bay, and much smaller one is located at the head of Little River near Cutler Village. Little River or Cutler Harbor receives the discharge from several private sewers and from a seasonal restaurant.

Only two streams of any size enter tidewater. Schooner Brook enters Money Cove, a narrow sandy inlet, and Andrews Meadow Brook enters the eastern part of Little Machias Bay. There is some dumping of rubbish from bridges over the tidewaters of both streams, and it seems to be a practice to leave containers of rubbish on the flats near the mouth of Andrews Meadow Brook. This stream does not follow a definite channel over the flats but spreads out over a very wide area where much of the clam digging is done.

Trescott

This town has shorelines along the inner bays and also along the ocean. Except for the wood waste coming from the Orange River the tidewaters of this town are practically unpolluted. A few smokehouses for curing fish are located near Baileys Mistake. The relatively small streams entering tidewater have no sources of pollution except for a manure pile near the mouth of the stream entering Haycock Harbor.

Many of the flats of this town are very difficult to approach from land. A very wide sandy flat at Moose River seems to be relatively unproductive.

Lubec

Public sewers and most of the industry of this town are concentrated on Lubec Neck, but one sardine factory and a pearl essence plant and several smokehouses are scattered about the town. The factory of the American Can Co. and two pet food factories operate all through the year.

There are very extensive clam flats in this town. Here flats would properly be measured in square miles rather than in acres. Very large flats lie between Lubec and South Lubec and other very large flats are found along South Bay and at Baileys Mistake.

There are no streams of any significance in this town. A public dump is in use on tidewater at South Lubec, and dumping at the end of Water St. in Lubec has been a common practice. Back of a filling station and garage near the standpipe there is a dump made up mostly of old motor oil cans and old automobile parts which now litters the beach.

Edmunds

This section of coastline has many areas of exposed tidal flats at low water scattered along a practically unoccupied shore. The bay west of Gravel Point is closed as a conservation area, but clam digging is going on there in a small way. Wood waste is found all along the shore westward from Gravel Point. Between this point and the mouth of Crane Mill brook the shore is littered with manure, as the land is fenced for a pig sty and cattle pen.

Dennysville

At the head of tide of Dennys River is located the Village of Dennysville. Many private sewers enter the river. Considerable quantities of fresh water flow from this river to the narrow tidal inlet. Wide tidal flats are soft and sticky and show the presence of old sawdust. Two much smaller streams enter an inlet at the Pembroke town line.

Pembroke

Wide tidal flats are found along much of the shoreline of this town, though some areas are very soft and sticky. The inner part of Pennamaquan Bay seems to be somewhat polluted. Fresh water enters the bay from Pennamaquan River and two much smaller streams. While the town has no sewer system the population is concentrated near the river and near Willow Brook. A dump of an unofficial public nature is located in the tidewater section of the river and is growing steadily. The factory of Sunset Packing Co. is located at West Pembroke, and this plant tries to extend its operations beyond the regular sardine packing season.

Eastport

This town is on an island, and there is no stream worthy of note. Most of the discharge of sanitary sewers is concentrated along an exposed waterfront, but one fairly large sewer enters Broad Cove and another smaller one enters Johnson Cove. Sewers serving Quoddy Village enter Bar Harbor, and their outlets are within the area now under study for development as Passamaquoddy Pool, which may possibly be closed off by a proposed dam which would take the place of the present bridge. During the summer sewers are in use at a cottage development on Harris Point. There are about a dozen family type cottages here.

Some of the many industries located here cause a great deal of pollution to both water and air. Most of the sardine packing plants are located along the waterfront in the village, while the others are scattered around the island away from the village.

A municipal dump is located at Broad Cove and much debris has been strewn about the flats.

There are numerous coves, and several have very extensive tidal flat areas exposed at low tide, but a thick mat of green growth seems to cover a great portion of the flats.

Perry

There is very little pollution evident along the Perry coastline except at Lewy's Cove (or Lewis Cove on USGS maps) where the Lewy's Cove Canning Co. has a small factory employing not more than thirty persons. Pottle Brook enters this cove also. This cove contains many acres of fine clam flats, and there is some commercial digging here.

In other parts of the town only three other streams (Boyden Stream, Smelt Brook and Sipp Brook) are significant, and the flow of these is often very small. Boyden Stream drains an area devoted largely to pasture of dairy cattle. Otherwise these streams are relatively unpolluted, though refuse is often thrown from the bridges on route one. Motor oil may be dumped from a garage into Boyden Stream, and this summer a large quantity of road tar escaped from the railroad car to this stream.

Tabulated data on pages following.

TIDAL FLAT AND COASTAL AREA

BASIN NO. 19

See Map No. 6A

The following data on the tidal flats portion of the St. Croix River was accumulated during the period from July 1952 to November 1952 and consists of data only in the towns of Calais and Robbinston, since the Robbinston - Perry town line was the division of the St. Croix River Basin from the Atlantic Coastal Basin.

Essentially, the body of water involved is the tidal portion of the St. Croix River and officially entitled as such, but the volume of fresh water from the stream is small enough in proportion to the width of the channel so the incoming tide has a profound effect on salinity, aquatic life, etc. of the area. At the Village of Robbinston there is a sardine packing plant which discharges wastes during the season.

Throughout this entire area the many hundreds of miles of shoreline have been but little developed for summer resort property. While there are many isolated camps and cottages scattered through the area there are no concentrations of cottages. The most built up section of the coast is probably in Robbinston near Little Dochet Island. Here about a dozen cottages occupy about one-half mile of shore. Very few of the seasonal dwellings have an adequate water supply to permit modern plumbing. It is readily obvious that there is practically no seasonal change in pollution load in the eastern part of the state due to an increase in summer population.

Robbinston

In this town there are three principal areas populated by clams, and at times there is some commercial digging. More than 150 acres of flats are exposed at low tide in these three coves. Brooks Cove and Mill Cove are especially important, both in area and productivity.

Pollution along these shores does not seem to be of local origin, but has its source in the upper river. Several small brooks, some of which sometimes dry up, are moderately polluted, apparently from pastures and poultry pens through which they flow. One small stream is highly polluted by indirect drainage from the school at the village. The sardine packing plant of Seaboard Packing Co. is located on an exposed shore at the village and employs up to about 200 persons.

At Mill Cove a small dump, mostly of motor oil cans, back of a filling station litters the bank in one place, and cans are scattered about the flats.

Calais

The tidewaters of Calais support very few shellfish. From the head of tide to Devils Head the river is narrow and the shores are mostly rocks and ledges, sticky silt or clay and old sawdust thick with slime. Downstream the river widens, and the shores are mostly ledge or gravel with only small areas of tidal flats exposed at low water. Pollution of these tidewaters comes from the waters of the St. Croix River, which considerably dilute the ocean waters of the upper tidal sector, and from the municipal sewers at Calais and St. Stephens, N. B. Another possible pollution source is from incoming waters polluted at St. Andrews, N. B., across the bay from Robbinston.

At St. Stephens an accepted method of rubbish disposal seems to be to throw all sorts of debris from the buildings overlooking the river. This is especially prevalent at high tide when great accumulations of material may be seen floating on the water, waiting for the strong outgoing currents to sweep it away. On the west side Calais maintains a municipal dump on an old pier where the domestic rubbish of the town is disposed of. The condition of the flats indicates that some of the waste undoubtedly floats away.

Other than the St. Croix River only one stream of any size enters tidewater. Red Beach Flowed Lands Brook discharges into the small cove forming a harbor there. This brook is unpolluted.

Tabulated data pertaining to results of sampling is to be found on pages following.

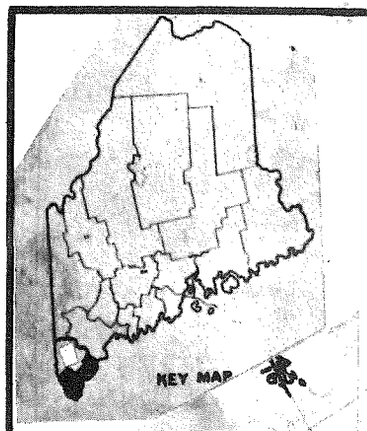
ST. CROIX RIVER BASIN

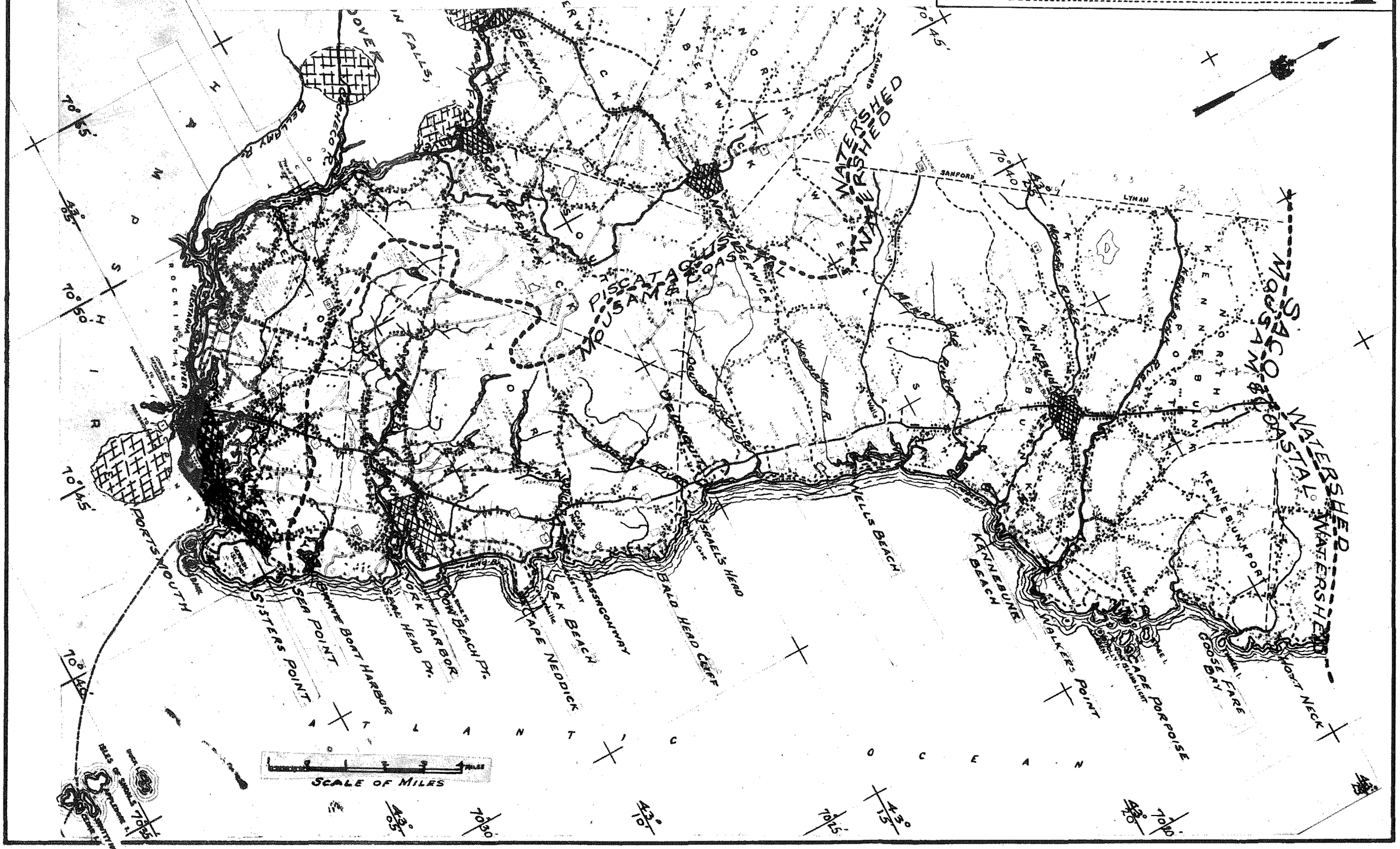
Tabulated Results of Test Data Compiled on Tidal Flats

Sta. No.	No. Samples	Median M.P.N.	Samp. > 70 M.P.N.	Remarks	Test Period		Station	Breakdown for stages of tide			
								Ebb	Low	Flood	High
Robbinston											
A	5	150	4	Small flats, few clams	7/15/52 to 10/21/52	No.Samples	5		2	1	2
						Av. M.P.N.	179		122	460	97
AA	1	28		Stream outlet	11/3/52	No.Samples	1				
						Av. M.P.N.	28				
B	7	240	6	Wide flats, some clams in spots	7/15/52 to 10/21/52	No.Samples	7	1	1	2	3
						Av. M.P.N.	324	93	43	350	478
BB	1	>11,000	1	Stream outlet	9/20/52	No.Samples	1				
						Av. M.P.N.	>11,000				
C	1	> 1,100	1	Station discontinued	7/15/52	No.Samples	1	1			
						Av. M.P.N.	> 1,100	> 1,100			
D	7	460	7	Flats, clams some places	7/15/52 to 10/16/52	No.Samples	7	1	2	2	2
						Av. M.P.N.	491	> 1,100	113	597	460
E	4	235	4	Small stream outlet	7/18/52 to 11/3/52	No.Samples	4				
						Av. M.P.N.	1,305				
F	1	> 1,100	1	Small stream outlet	7/21/52	No.Samples	1				
						Av. M.P.N.	> 1,100				
G	2	6,050	2	Small stream outlet	7/18/52 to 9/20/52	No.Samples	2				
						Av. M.P.N.	6,050				
H	6	460	6	Wide flats, clams plentiful	7/15/52 to 10/3/52	No.Samples	6	1	1	2	2
						Av. M.P.N.	561	1,100	> 1,100	277	305
I	8	195	6	Clams plentiful	7/15/52 to 10/16/52	No.Samples	8	1	2	2	3
						Av. M.P.N.	186	240	33	195	264
J	3	11,000	3	Stream outlet	7/21/52 to 11/3/52	No.Samples	3				
						Av. M.P.N.	7,700				
K	8	93	5	Sandy, few clams	7/15/52 to 10/16/52	No.Samples	8	1	2	2	3
						Av. M.P.N.	331	23	70	562	431
L	3	> 1,100	3	Stream outlet	7/18/52 to 9/20/52	No.Samples	3				
						Av. M.P.N.	2,267				
M	8	240	7	Rocky, no clams	7/15/52 to 10/16/52	No.Samples	8	1	2	2	3
						Av. M.P.N.	408	> 1,100	167	127	527
N	4	125,000	4	Stream outlet	7/18/52 to 11/3/52	No.Samples	4				
						Av. M.P.N.	338,025				
O	12	23	3	Small flats, few clams	7/15/52 to 11/18/52	No.Samples	12	3	3	3	3
						Av. M.P.N.	79	18	18	164	114
OO	1	2,100	1	Stream outlet	9/20/52	No.Samples	1				
						Av. M.P.N.	2,100				
P	12	23	3	Wide flats, clams plentiful, some sections	7/17/52 to 11/14/52	No.Samples	12	4	3	3	2
						Av. M.P.N.	46	37	48	71	23
Q	12	33	4	Wide flats, clams plentiful, some sections	7/14/52 to 11/18/52	No.Samples	12	4	2	4	2
						Av. M.P.N.	92	32	125	132	97
R	2	122	2	R&S can be considered same point due to proximity	7/14/52 to 7/20/52	No.Samples	2	1		1	
						Av. M.P.N.	122	150		93	
S	9	23	3	R&S can be considered same point due to proximity	7/14/52 to 11/18/52	No.Samples	9	4		3	2
						Av. M.P.N.	128	145		30	242
T	7	43	3	No clams	7/26/52 to 11/2/52	No.Samples	7	2	3	1	1
						Av. M.P.N.	340	36	684	23	230
T_1	1	43		Stream	10/25/52	No.Samples	1				
						Av. M.P.N.	43				

Tabulated Results of Test Data Compiled on Tidal Flats

Sta No.	No. Samples	Median M.P.N.	Samp. > 70 M.P.N.	Remarks	Test Period		Station	Breakdown for stages of tide			
								½Ebb	Low	½Flood	High
Robbinston (Cont.)											
TT_1	1	43		Stream	11/3/52	No.Samples	1				
						Av. M.P.N.	43				
TT_2	1	4		Stream	11/3/52	No.Samples	1				
						Av. M.P.N.	4				
U	10	59	5	Wide flats	7/14/52 to 11/18/52	No.Samples	10	4		4	2
						Av. M.P.N.	130	33		250	84
V	9	43	4	Wide flats, clams plentiful in places	7/14/52 to 11/18/52	No.Samples	9	4		3	2
						Av. M.P.N.	70	28		112	93
W	9	21	2	Wide flats, clams plentiful in places	7/26/52 to 11/18/52	No.Samples	9	3	3	2	1
						Av. M.P.N.	37	19	52	15	93
Calais											
D	7	4,600	7		8/7/52 to 10/21/52	No.Samples	7	2		1	4
						Av. M.P.N.	12,213	28,500		4,600	6,222
F	8	1,100	8	Small flats, few clams	7/15/52 to 10/16/52	No.Samples	8	1	2	2	3
						Av. M.P.N.	832	> 1,100	350	> 1,100	887
G	2	2,420	2	Small stream outlet	7/21/52 to 9/20/52	No.Samples	2				
						Av. M.P.N.	2,420				
H	8	350	6	Small flats, few clams	7/15/52 to 10/21/52	No.Samples	8	1	2	2	3
						Av. M.P.N.	438	43	350	> 1,100	186
I	8	240	8	Small mud flats, some clams	7/15/52 to 10/21/52	No.Samples	8	1	2	2	3
						Av. M.P.N.	464	240	240	350	600
J	8	780	8	Small flats, very few clams	7/15/52 to 10/16/52	No.Samples	8	1	2	2	3
						Av. M.P.N.	698	240	670	1,100	600
K	4	93	3	Stream outlet	7/18/52 to 11/3/52	No.Samples	4				
						Av. M.P.N.	2,802				





STATE OF MAINE
TIDE WATER SURVEY 1952-1953
COASTAL AREA WATERSHED NO. 12
MOUSAM RIVER & ADJACENT COASTAL STREAMS

SCALE 1" = 3 MI. (APPROX)

MAP NO. 1

LEGEND

- TIDEWATER SHORE
- TOWN BOUNDARIES
- COUNTY BOUNDARIES
- URBAN AREAS
- FARM UNIT
- DWELLING UNIT OTHER THAN FARM
- SEASONAL OR SUMMER COLONY DWELLING
- INDUSTRIAL PLANTS
- SAWMILLS
- BITUMINOUS & BIT. SURF. ROADS
- GRAVEL SURF. & UNIMPROVED GRAV. RDS.
- EARTH ROADS
- PAVED ROADS
- WATERSHED BOUNDARIES

STATE OF MAINE
TIDEWATER SURVEY
1952-1953
COASTAL AREA
WATERSHED NO. 14
PRESUMPSCOT RIVER & ADJACENT COASTAL STREAMS

SCALE 1" = 3 MI. (APPROX.)

KEY MAP

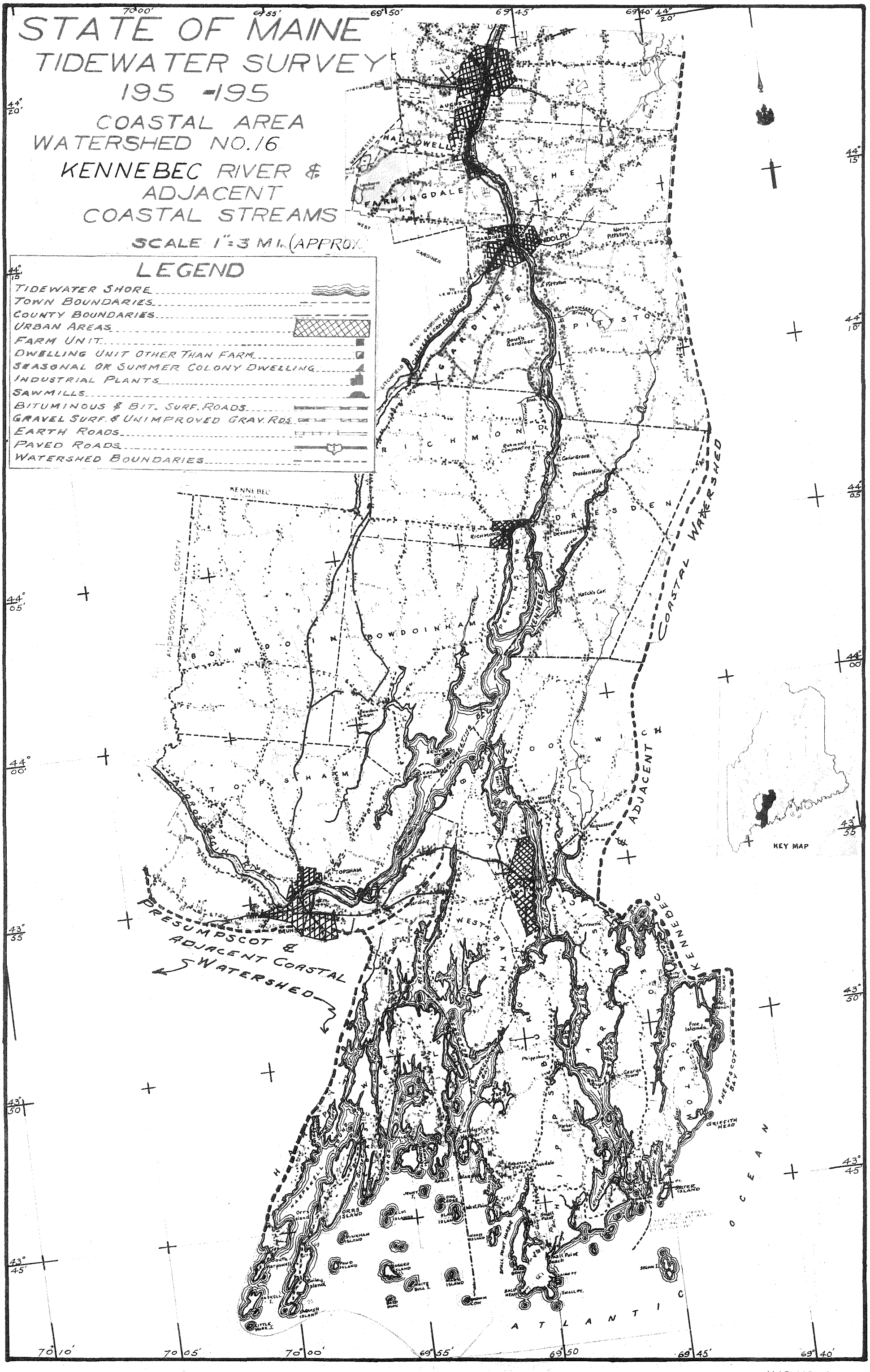
MAP NO. 2

STATE OF MAINE
TIDEWATER SURVEY
195 -195
COASTAL AREA
WATERSHED NO. 16
KENNEBEC RIVER & ADJACENT COASTAL STREAMS

SCALE 1" = 3 MI. (APPROX.)

LEGEND

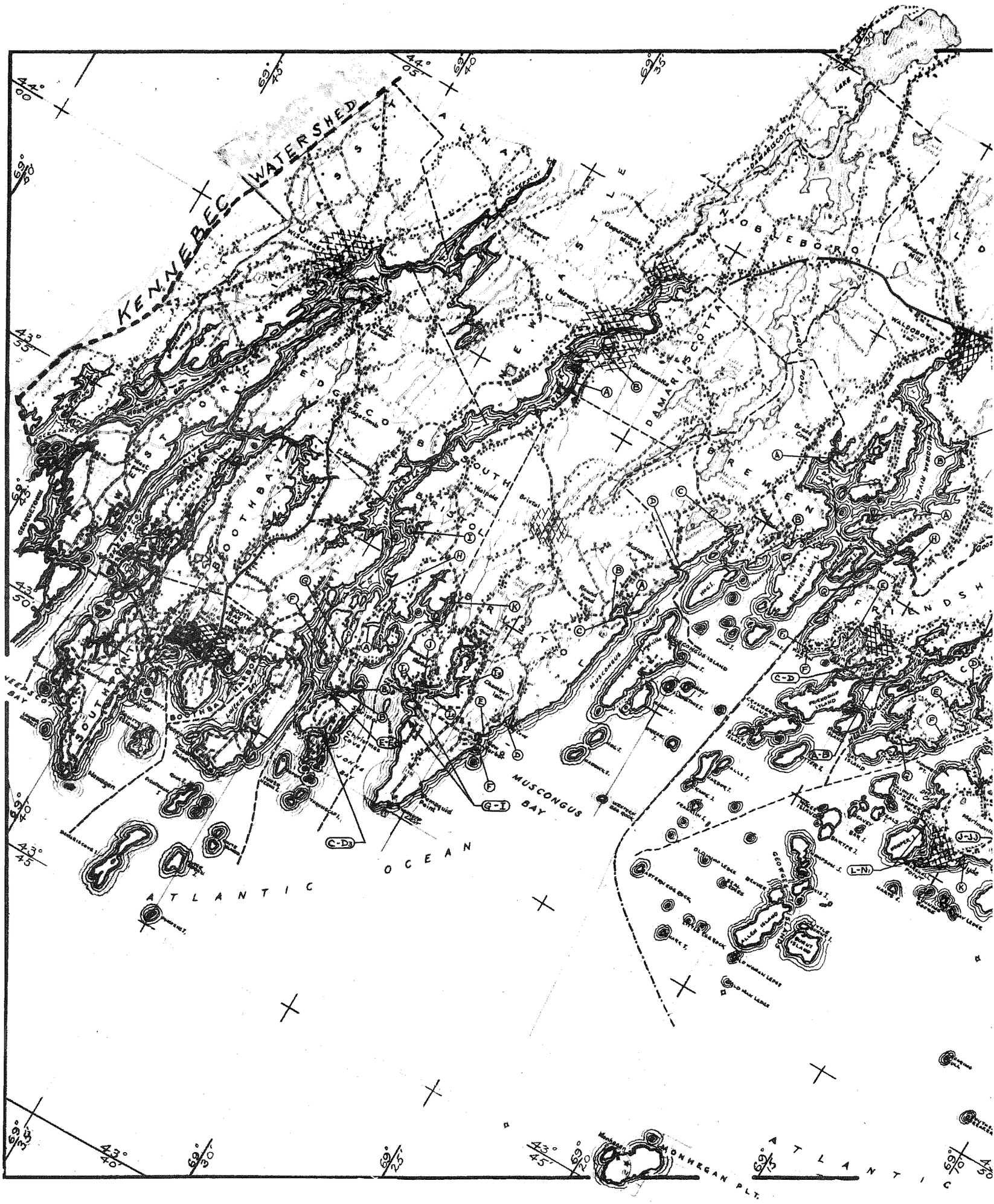
- TIDEWATER SHORE
- TOWN BOUNDARIES
- COUNTY BOUNDARIES
- URBAN AREAS
- FARM UNIT
- DWELLING UNIT OTHER THAN FARM
- SEASONAL OR SUMMER COLONY DWELLING
- INDUSTRIAL PLANTS
- SAWMILLS
- BITUMINOUS & BIT. SURF. ROADS
- GRAVEL SURF. & UNIMPROVED GRAV. RDS.
- EARTH ROADS
- PAVED ROADS
- WATERSHED BOUNDARIES

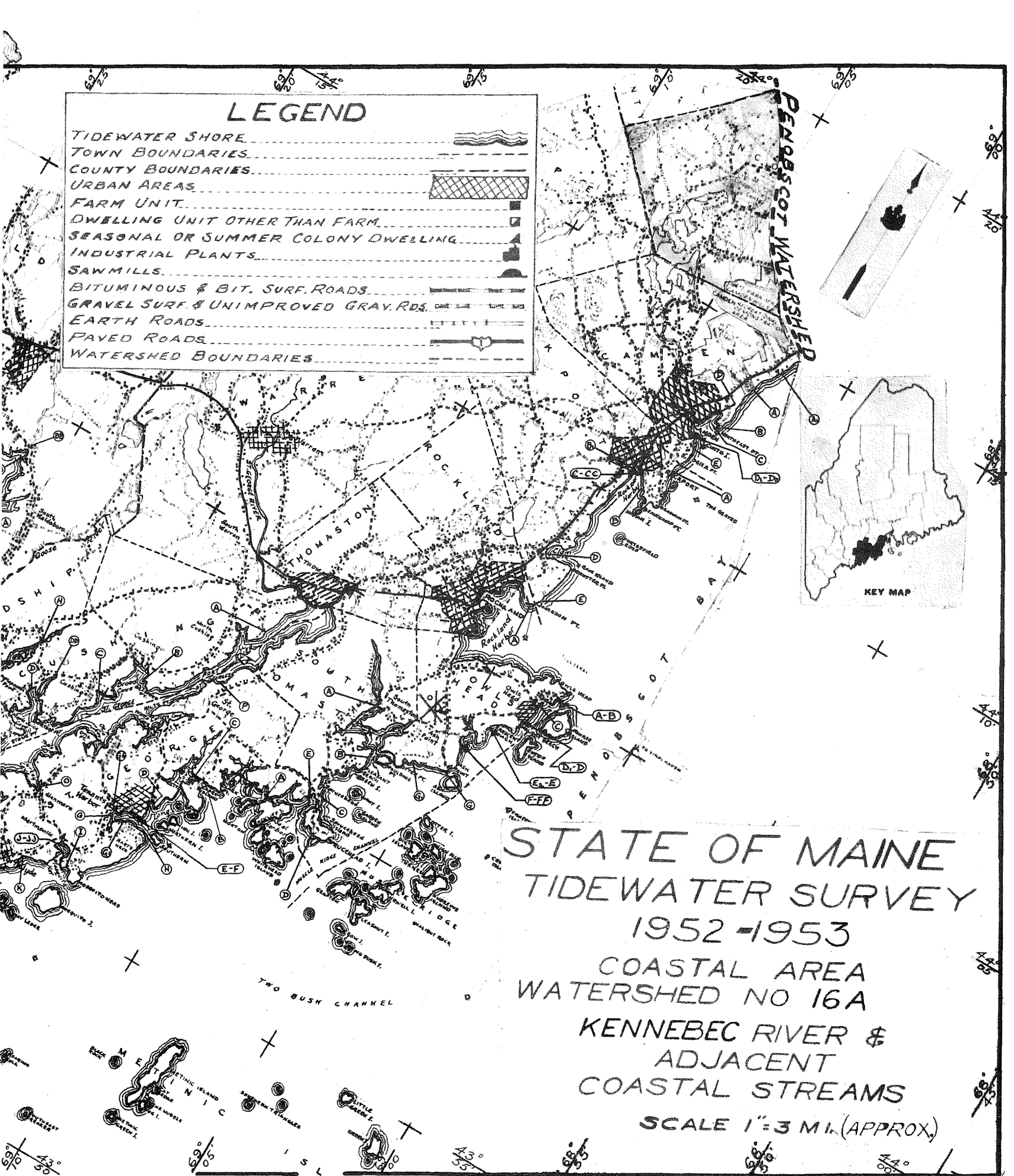


MAP NO. 3

The following two pages include one oversized map scanned in segments. The full map is included in the hard copy of this report, available in the library.

(Call Number TD224.M2 M346 1955)


KENNEBEC WATERSHED
ATLANTIC OCEAN
MUSCONGUS BAY
BOOTHBAY HARBOR
SOUTH BRISTOL
DAMARISCOTTA
NOBLEBORO
FRIENDSHIP
MONHEGAN PLT.
ATLANTIC



STATE OF MAINE
TIDEWATER SURVEY
1952-1953
COASTAL AREA
WATERSHED NO 16A
KENNEBEC RIVER & ADJACENT COASTAL STREAMS

SCALE 1" = 3 MI. (APPROX.)

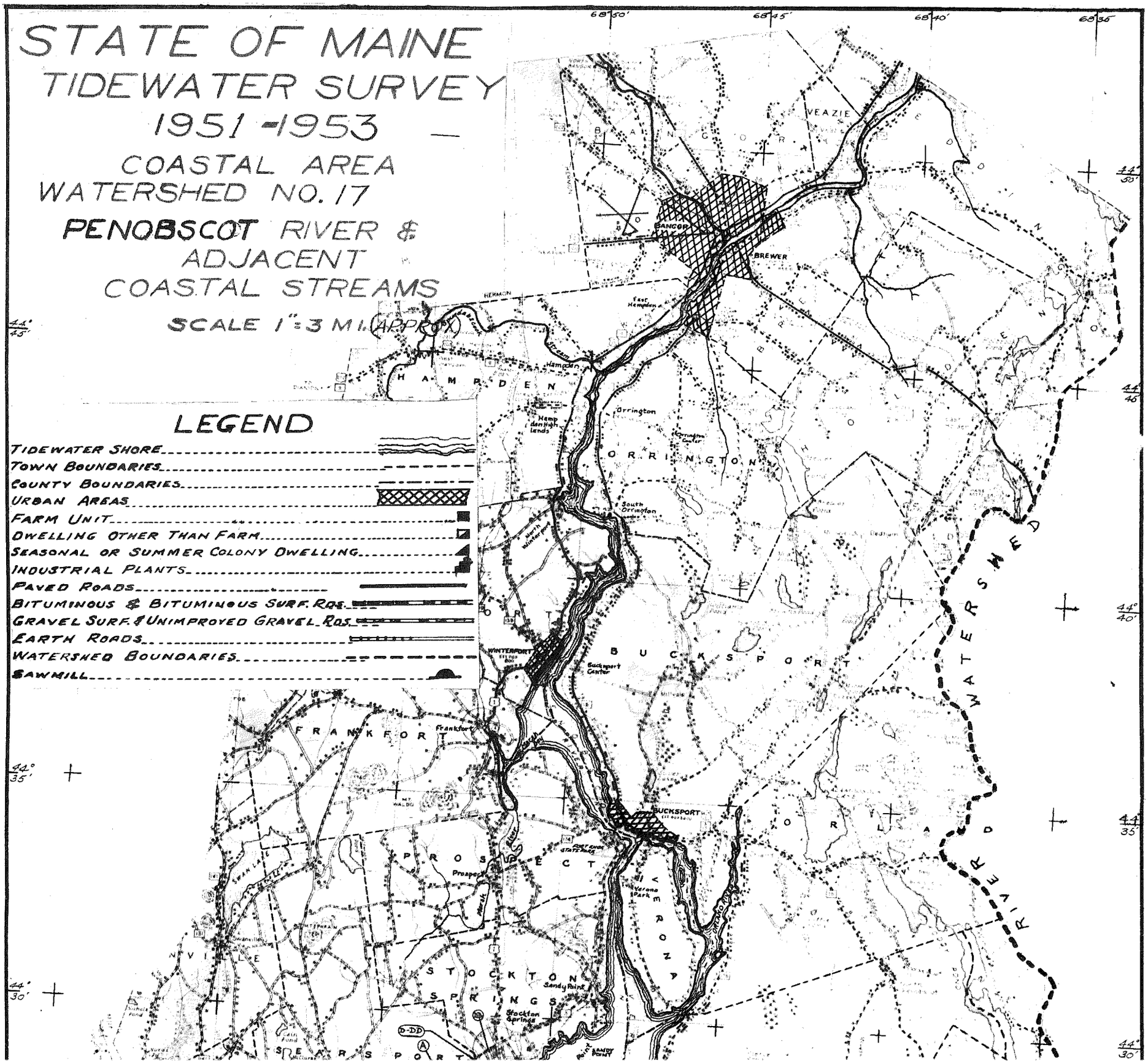
MAP NO. 4

The following two pages include one oversized map scanned in segments. The full map is included in the hard copy of this report, available in the library.

(Call Number TD224.M2 M346 1955)

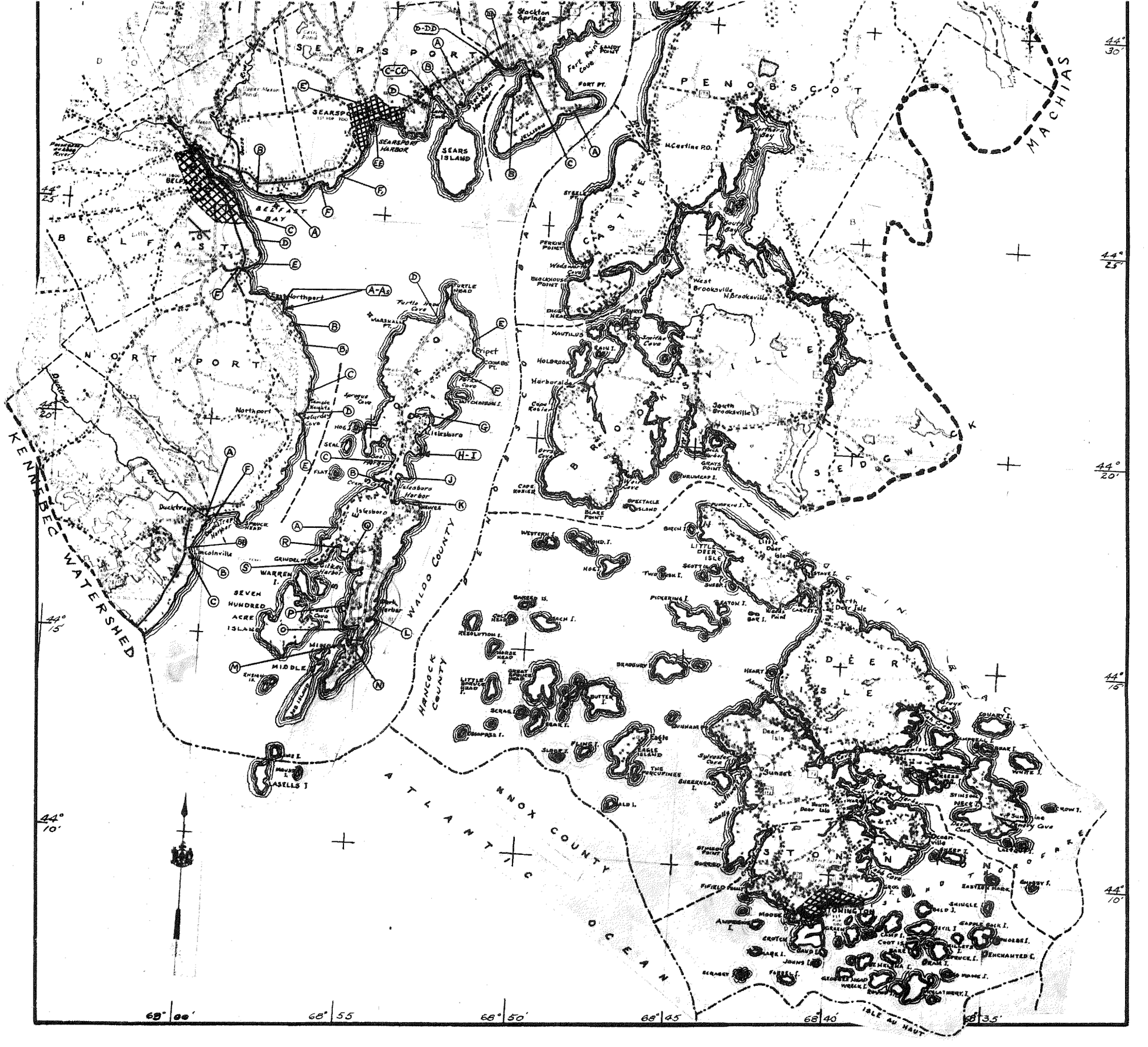
STATE OF MAINE
TIDEWATER SURVEY
1951 - 1953
COASTAL AREA
WATERSHED NO. 17
PENOBSCOT RIVER & ADJACENT COASTAL STREAMS

SCALE 1" = 3 MI. (APPROX)

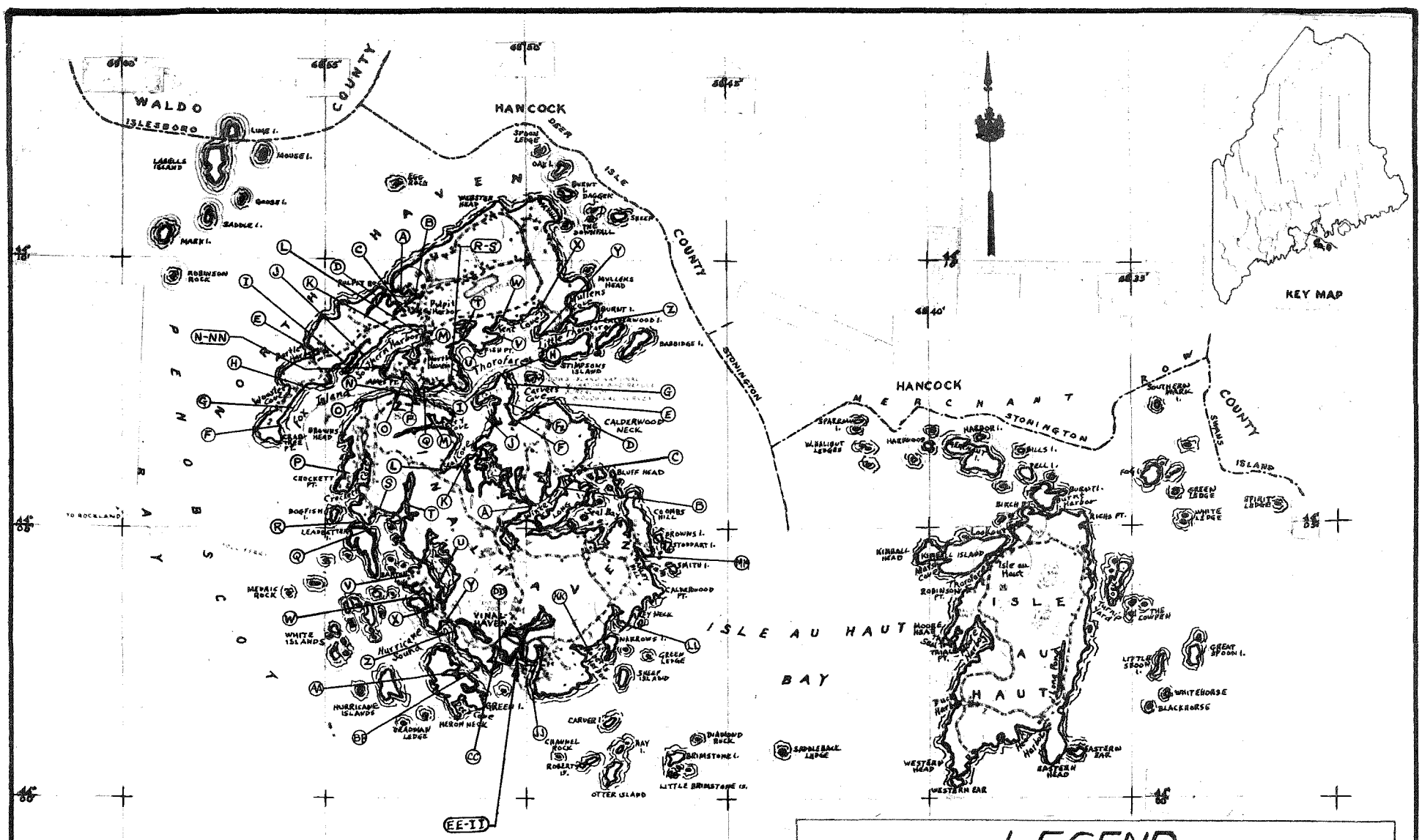


LEGEND

- TIDEWATER SHORE
- TOWN BOUNDARIES
- COUNTY BOUNDARIES
- URBAN AREAS
- FARM UNIT
- DWELLING OTHER THAN FARM
- SEASONAL OR SUMMER COLONY DWELLING
- INDUSTRIAL PLANTS
- PAVED ROADS
- BITUMINOUS & BITUMINOUS SURF. RDS.
- GRAVEL SURF. & UNIMPROVED GRAVEL RDS.
- EARTH ROADS
- WATERSHED BOUNDARIES
- SAWMILL


BELFAST
BELFAST BAY
SEARSPORT
SEARSPORT HARBOR
SEARS ISLAND
NORTHPORT
Northport
East Northport
Ducktrap
Lincolnville
Islesboro
Islesboro Harbor
Turtle Head
Turtle Head Cove
Tripet
Tripet Cove
Sprague Cove
Saturday Cove
Seal Ledge
Goat Ledge
Flat Ledge
Gilkey Harbor
Grindel Pt.
WARREN I.
SEVEN HUNDRED ACRE ISLAND
MIDDLE
Ensheu Is.
Mouse I.
Hewett I.
CASELLS I.
Stockton Springs
Fort Point
Sandy Point
Fort Pt.
Yellow Ledge
Stockton Harbor
PENOBSCOT
MACHIAS
McCastline P.O.
CASTINE
Perkins Point
Wadsworth
Blackjoiouse Point
Dice Head
BROOKSVILLE
West Brooksville
N. Brooksville
South Brooksville
Nautilus
Smiths Cove
Holbrook
Harborside
Cape Rosier
Gravs Point
Orrs Cove
Hurricane I.
Spectacle Island
Blake Point
Western I.
Hog I.
Two Bush I.
Scott I.
Susie I.
Pickering I.
Birch I.
LITTLE DEER ISLE
Little Deer Isle
North Deer Isle
Carney I.
Bar I.
Resolution I.
Gardner Is.
Gott Island
Horse Head I.
Bradbury
Little Bradbury I.
Great Bradbury I.
Butter I.
Scrag I.
Bear I.
Compass I.
Eagle
Eagle Island
The Porcupines
Sherman I.
Gunnam
Sylvester Cove
Sunset
DEER ISLE
Heart
Hells Half Acre
Squirrel I.
Campbell I.
Crow I.
Stinson Neck
Sunshine
Holly Cove
Ocean View
Herrick I.
Lasell I.
STONINGTON
Stonington Harbor
Fifield Point
Crotch I.
Moose I.
Green I.
Saddleback I.
Shingle I.
Gilkey I.
Devil I.
Gardner Rock I.
Goose I.
Sand I.
Mark I.
Johns I.
Scraggy
Farrell I.
Enchanted I.
Gray I.
Hockamock Head
Isle au Haut
KENNEBEC WATERSHED
WALDO COUNTY
HANCOCK COUNTY
KNOX COUNTY
ATLANTIC OCEAN
44° 30'
44° 25'
44° 20'
44° 15'
44° 10'
68° 00'
68° 55'
68° 50'
68° 45'
68° 40'
68° 35'

MAP NO. 5



LEGEND

- TIDEWATER SHORE
- TOWN BOUNDARIES
- COUNTY BOUNDARIES
- URBAN AREAS
- FARM UNIT
- DWELLING UNIT OTHER THAN FARM
- SEASONAL OR SUMMER COLONY DWELLING
- INDUSTRIAL PLANTS
- SAWMILLS
- BITUMINOUS & BIT. SURF. ROADS
- GRAVEL SURF. & UNIMPROVED GRAV. RDS.
- EARTH ROADS
- PAVED ROADS
- WATERSHED BOUNDARIES

STATE OF MAINE
TIDEWATER SURVEY
1952-1953
COASTAL AREA
WATERSHED NO. 17
PENOBSCOT RIVER & ADJACENT COASTAL STREAMS

SCALE 1" = 3 MI. (APPROX.)

MAP NO. 5A

The following two pages include one oversized map scanned in segments. The full map is included in the hard copy of this report, available in the library.

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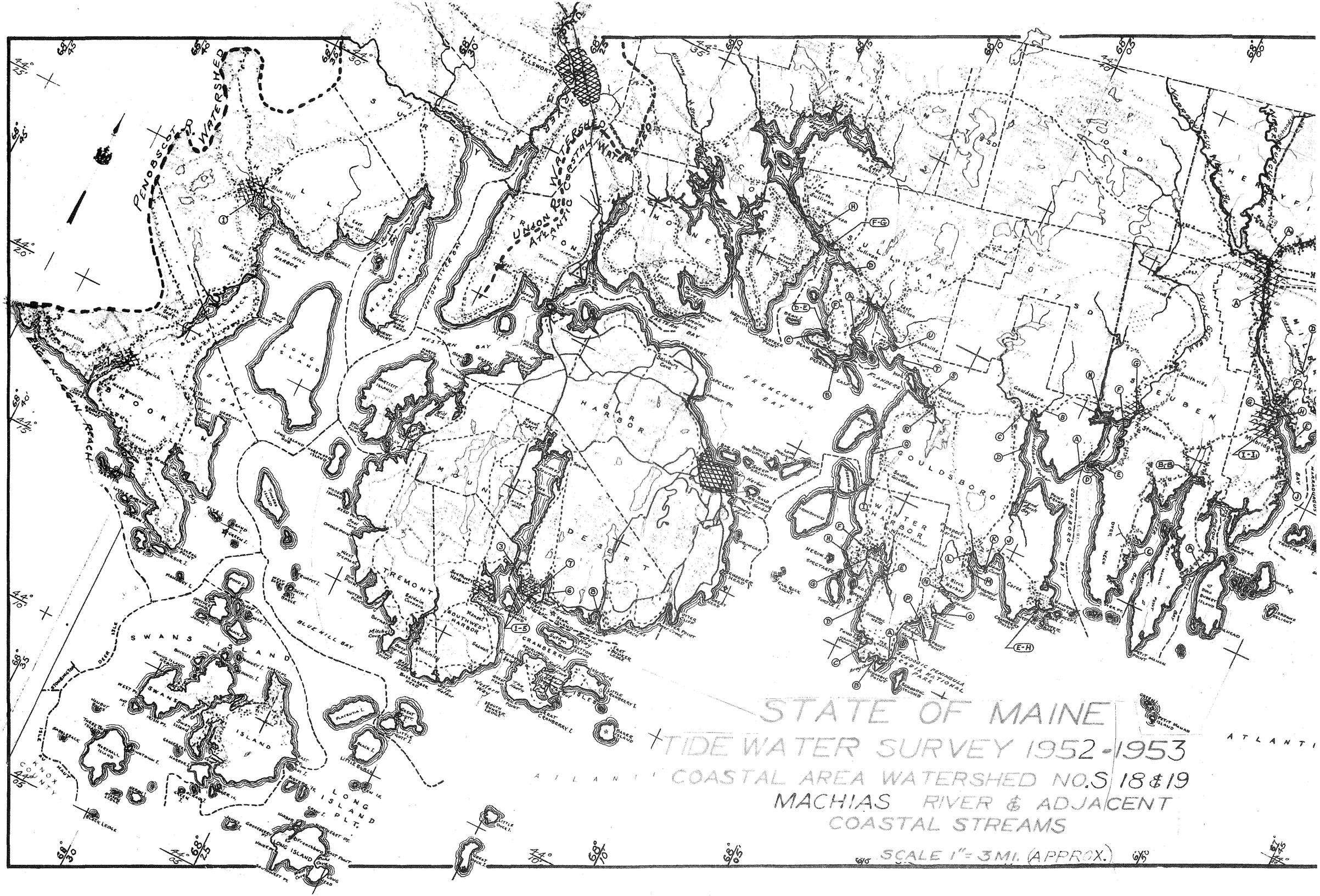
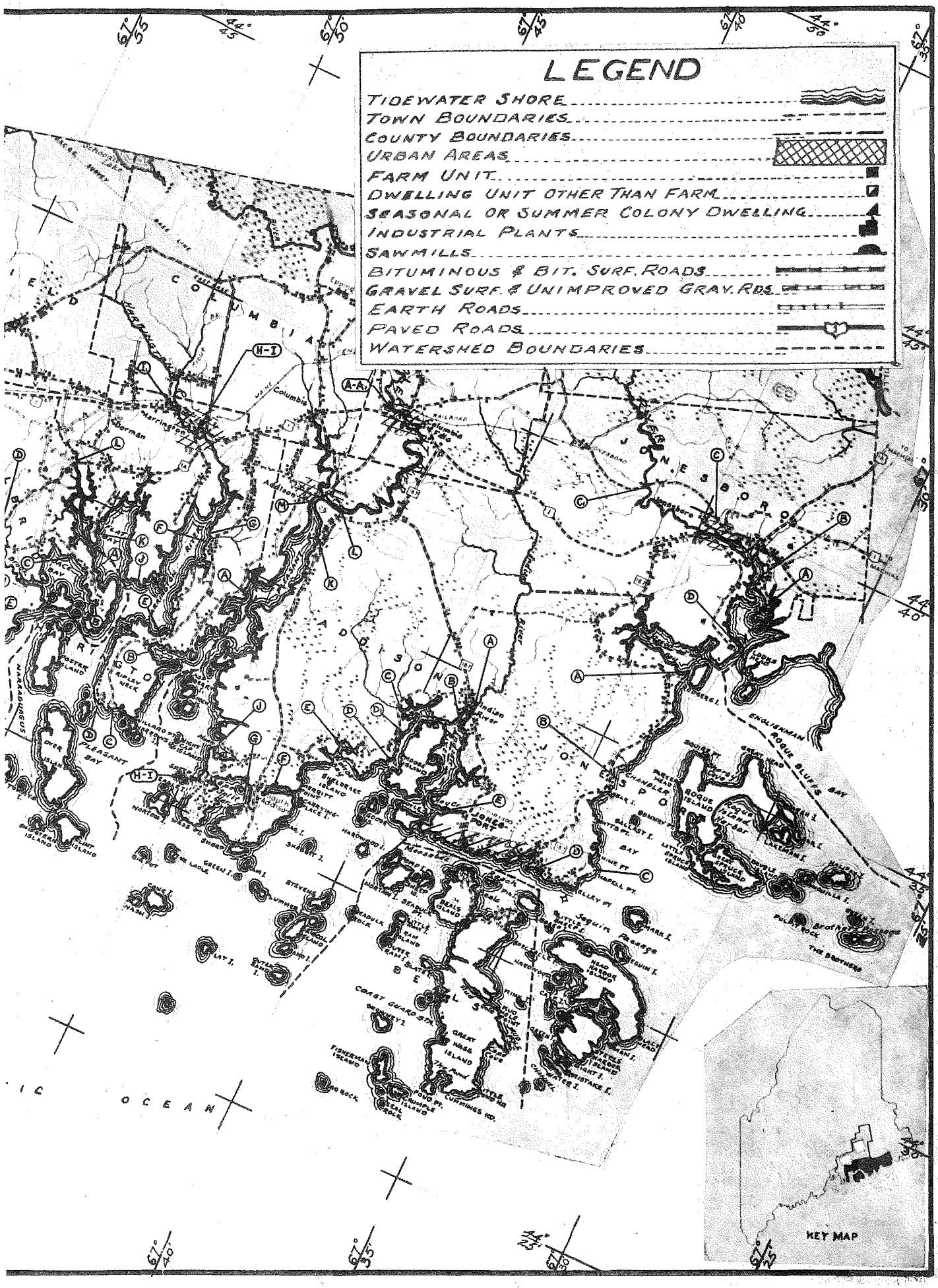


STATE OF MAINE
TIDE WATER SURVEY 1952-1953
COASTAL AREA WATERSHED NO.S 18 & 19
MACHIAS RIVER & ADJACENT
COASTAL STREAMS

SCALE 1" = 3 MI. (APPROX.)


LEGEND
TIDEWATER SHORE
TOWN BOUNDARIES
COUNTY BOUNDARIES
URBAN AREAS
FARM UNIT
DWELLING UNIT OTHER THAN FARM
SEASONAL OR SUMMER COLONY DWELLING
INDUSTRIAL PLANTS
SAWMILLS
BITUMINOUS & BIT. SURF. ROADS
GRAVEL SURF. & UNIMPROVED GRAV. RDS.
EARTH ROADS
PAVED ROADS
WATERSHED BOUNDARIES
COLUMBIA
JONESBORO
ADDISON
HARRINGTON
Harrington
Jonesboro
Addison
Columbia
Indian River
Pleasant Bay
Chandler River
Rogue Island
Englishman
Roque Bluffs Bay
Great Wass Island
Long Island
Beals Island
Head Harbor Island
Seguine
Brothers
The Brothers
Coast Guard Sta.
Fisherman Island
Ocean
KEY MAP

MAP NO. 6

STATE OF MAINE
TIDEWATER SURVEY
1952-1953
COASTAL AREA
WATERSHED NO. 18 & 19
MACHAIS RIVER & ADJACENT COASTAL STREAMS

SCALE 1" = 3 MI. (APPROX.)

LEGEND

- TIDEWATER SHORE
- TOWN BOUNDARIES
- COUNTY BOUNDARIES
- URBAN AREAS
- FARM UNIT
- DWELLING UNIT OTHER THAN FARM
- SEASONAL OR SUMMER COLONY DWELLING
- INDUSTRIAL PLANTS
- SAWMILLS
- BITUMINOUS & BIT. SURF. ROADS
- GRAVEL SURF. & UNIMPROVED GRAV. RDS.
- EARTH ROADS
- PAVED ROADS
- WATERSHED BOUNDARIES

KEY MAP

MAP NO. 6A