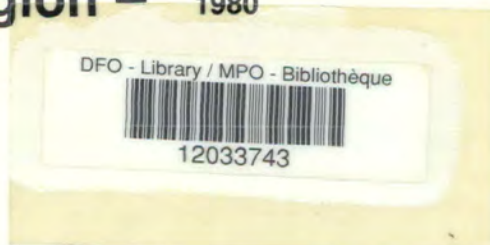


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Bacteriological Results of Monitoring Program of Oyster Shellstock Harvesting Areas Maritimes Region — 1980

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Numbers 1-25 in this series were issued as Fisheries and Marine Service Data Records. Numbers 26-160 were issued as Department of Fisheries and the Environment, Fisheries and Marine Service Data Reports. The current series name was changed with report number 161.

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Les numéros 1 à 25 de cette série ont été publiés à titre de Records statistiques, Service des pêches et de la mer. Les numéros 26-160 ont été publiés à titre de Rapports statistiques du Service des pêches et de la mer, Ministère des Pêches et de l'Environnement. Le nom de la série a été modifié à partir du numéro 161.

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Fisheries and Marine Service

Data Report

May 1981

Bacteriological Results of Monitoring Program
of Oyster Shellstock Harvesting Areas
Maritimes Region 1980

by

J.R. MacLean

Inspection Division

Department of Fisheries & Oceans

Maritimes Region

BACTERIOLOGICAL RESULTS OF MONITORING PROGRAMS
OF OYSTER SHELLSTOCK HARVESTING AREAS
MARITIMES REGION - 1980

Commencing in 1967, the Inspection Division of Fisheries and Oceans has carried out an Annual Bacteriological Monitoring Program of oyster shellstock growing areas of commercial harvesting significance from all areas in the Maritimes.

Each year, prior to the opening of the harvesting season, samples are taken from all potential harvesting areas and areas yielding results in excess of 2400 MPN Coliforms and/or 100 MPN Faecal Coliforms are re-sampled and probable sources of pollution investigated. The pre-season sampling is further supplemented by bacteriological weekly analyses taken from oyster shellstock and shipping stock during the harvesting and shipping season.

Whenever results are consistently above 2400 MPN Coliforms or 100 MPN Faecal Coliforms, the Inspection Division carries out a bacteriological survey of overlay waters and may recommend to the Environmental Protection Services that a thorough seawater survey of a particular growing area be carried out to determine if closure of the area would be warranted.

Results 1980 - 95% compliance for total Coliforms and 80% compliance for Faecal Coliforms, being results found for pre-season samples. 100% compliance for total Coliforms and 96% compliance for Faecal coliforms were found in Harvesting - Shipping oyster samples. No oyster growing areas were recommended for closure based on findings.

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BACTERIOLOGICAL RESULTS OF MONITORING PROGRAMS

OF OYSTER SHELLSTOCK HARVESTING AREAS

MARITIMES REGION - 1980

Since August 1967, the Inspection Branch has carried out an annual sampling program to monitor the bacteriological quality of oyster shellstock being commercially harvested from various areas in the Maritime Provinces.

Each year, prior to the opening of the oyster harvesting season, samples of oysters are taken from all harvesting areas and are bacteriologically tested to determine their quality and thereby monitor any significant change in the quality of overlay waters. The purpose of this program is to identify any changes in the level of contamination in the harvesting areas and, where necessary, carry out further bacteriological investigations. The pre-season sampling is further supplemented by bacteriological analyses of samples taken from commercial shipments of oyster shellstock during the oyster harvesting and shipping season.

Prior to the oyster harvesting season, samples of oyster shellstock (approximately 12 oysters per sample) are taken from each harvesting area in the Maritimes Region and analyzed for the most probable number (MPN) Coliform and Faecal bacteria per 100 grams (Standard Methods - Water and Waste, 13th Ed.).

During the oyster harvesting season, weekly samples of oyster shellstock (approximately 12 oysters per sample) are taken from each shipper's oyster grading sheds, where inspections for quality, labelling, etc., are carried out prior to shipment of any lots of oysters. These samples are also analyzed for MPN Coliform and Faecal Coliform bacteria.

Areas yielding oysters having bacteriological results in excess of 2400 MPN Coliforms and/or 100 MPN Faecal Coliforms are resampled.

Where results are consistently above these levels, the Inspection Branch carries out a bacteriological survey of the sea water in the particular harvesting area to obtain more information concerning the quality of the overlay water, and to determine if any significant deterioration has occurred since the previous season. From the results of these surveys, the Inspection Branch may recommend to the Environmental Protection Services that a thorough bacteriological survey of the harvesting area be carried out to determine if closure of the area should be recommended.

Table I lists the oyster producing areas of the Maritime Provinces.

Tables II and III outline the percent compliance of bacteriological results with various MPN Coliform and Faecal Coliform levels during the pre-season and harvesting-shipping season monitoring programs respectively.

Tables IV and V illustrate the compliance of the various areas with levels of quality during the pre-season and harvesting-shipping season monitoring programs respectively.

Table VI demonstrates the environmental conditions at the time of sampling and the action taken in respect to those samples collected during the pre-season monitoring program which yielded excessive bacteriological results.

Environmental conditions at time of sampling were not available for samples submitted as part of the harvest-shipping season monitoring program, since these samples were taken from the shippers' oyster grading sheds and not directly from the individual harvesting areas.

Ninety-five (95) percent of the pre-season samples and one hundred (100) percent of the harvesting-shipping season samples yielded MPN Coliform results of less than 2400 per 100 grams (Tables II and III). Results greater than 2400 MPN Coliforms per 100 grams were found in oyster from zero (0) of the twenty-eight (28) areas of Prince Edward Island, and two (2) of the fourteen (14) areas of New Brunswick (Tables IV and V). Nova Scotia did not carry out a pre-season monitoring program.

Eighty (80) percent of the pre-season samples and ninety-six (96) percent of the harvesting-shipping season samples yielded MPN Faecal Coliform results of less than 100 per 100 grams, ninety-three (93) percent of the pre-season samples and ninety-nine (99) percent of the harvesting-shipping season samples yielded MPN Faecal Coliform results of less than 250 MPN Faecal Coliforms per 100 grams were found in oyster samples from one (1) of the twenty-eight (28) areas of Prince Edward Island and two (2) of the fourteen (14) areas of New Brunswick (Tables IV and V).

TABLE I
OYSTER PRODUCING AREAS
MARITIME PROVINCES

1980

PRINCE EDWARD ISLAND
(OYSTER HARVESTING TRACTS)

TRACT NO.	LOCATION	TRACT NO.	LOCATION
1-G	Dock River	3-D	Stanley River
1-I	Mill River	3-K	Covehead Bay
1-K	Foxley River	6-C	Pinette River
1-M	Trout River	7-C	Vernon River
1-O	Black Bank	7-D	Pownal Bay
1-Q	Conway Narrows	7-F	East (Hillsborough R.)
1-R	Conway River (Poplar Grove)	7-H	West River
2-B	Lennox Island Channel	9-B	Salutation Cove
2-D	Trout River 2	9-G	Percival River
2-F	Lennox Island	9-H	Wolfe Inlet
2-H	Grand River	1-N	Cascumpeque Bay
2-I	Bentick Cove	3-M	Tracadie Bay
2-L	Darnley Basin	7-I	West River (West)
3-B	French River	3-J	Brackley Bay

NEW BRUNSWICK

AREA NO.	LOCATION	AREA NO.	LOCATION
41.	Shediac	51.	Hardwicke
42.	Shediac R. & Gr. Dique	52.	Neguac
45.	Buctouche Bay	53.	Upper St. Simon
47.	Little Buctouche River	54.	Caraquet
49.	Bay du Vin River	55.	Black River
50.	Bay du Vin, Egg Island & Fox Island Areas	56.	Shippegan Harbour
		57.	Village Bay
		58.	Little Shemoque

NOVA SCOTIA

AREA NO.	LOCATION	AREA NO.	LOCATION
72.	Eskasoni, Evans Island	74.	Tracadie Harbour
73.	River Denys, Whycotomagh Bay, Indian River, Little Narrows, Nyanza Bay, Orangedale	75.	Pictou Co. public beds
		76.	Caribou River
		77.	Malagash Basin
		78.	Wallace Basin
		79.	Fox River Area
		80.	Pugwash River
		81.	Mules Island

TABLE II

SUMMARY OF BACTERIOLOGICAL RESULTS OF OYSTER SHELLSTOCK

PRE-SEASON MONITORING PROGRAM - 1980

PERCENT COMPLIANCE

PROVINCE	NO OF SAMPLES	MPN COLIFORM RANGE PER 100 GM.					MPN FAECAL COLIFORM RANGE PER 100 GM.			
		<20	<100	<250	<2400	>2400	<20	<100	<250	>250
Prince Edward Island	22	8	18	21	22	0	11	19	21	1
Nova Scotia	Cape Breton did not Monitor									
New Brunswick (Dist #6)	19	5	13	15	17	2	8	14	17	2
TOTAL	41	13	31	36	39	2	19	33	38	3
PERCENT	100	32	76	88	95	5	46	80	93	7

TABLE III

MARITIMES REGION

SUMMARY OF BACTERIOLOGICAL RESULTS OF OYSTER SHELLSTOCK

HARVESTING-SHIPPIING SEASON MONITORING PROGRAM - 1980

PERCENT COMPLIANCE

PROVINCE	NO OF SAMPLES	MPN COLIFORM RANGE PER 100 GM.					MPN FAECAL COLIFORM RANGE PER 100 GM.			
		<20	<100	<250	<2400	>2400	<20	<100	<250	>250
Prince Edward Island	24	12	17	21	24	0	17	22	24	0
Nova Scotia	14	0	0	0	0	0	12	14	14	0
New Brunswick (Dist #6)	43	37	42	42	43	0	39	42	42	1
TOTAL	81 F.Coli 67 Coli	49	59	63	67	0	68	78	80	1
PERCENT	100	73	88	94	100	0	84	96	99	1

TABLE IV
MARITIMES REGION
SUMMARY OF BACTERIOLOGICAL RESULTS OF OYSTER SHELLSTOCK
PRE-SEASON MONITORING REPORT
1980

PROVINCE	AREA NOS.	AREAS WHERE MPN COLIFORM RANGES PER 100 GM. WERE				AREAS WHERE MPN FAECAL COLIFORM RANGES PER 100 GM. WERE		
		>20→ <100	>100→ <250	>250→ <2400	>2400	>20→ <100	>100→ <250	>250
Prince Edward Island	1-9	1-G 2-H 1-Q 2-I 2-B 9-G 2-L 2-D 1-M 2-F 1-K 9-H 3-B 1-I 3-K 7-C	9-B 2-H	2-H		1-Q 2-B 2-L 1-K 1-M 2-H 1-G 9-G 7-C 2-F 2-I 1-I 2-D 3-B 9-H 9-B 3-K	9-B 2-H	2-H
Nova Scotia								
New Brunswick (Dist #6)	52, 56	56, 52 54A, 54	54	54, 54A	56, 54	56, 52, 54 54A, 54	56, 54	54, 54A
Cape Breton did not carry out a "Pre-season Monitoring Program"								

TABLE VI
ENVIRONMENTAL CONDITIONS AT TIME OF SAMPLING (AREAS RESAMPLED ONLY)
OYSTER SHELLSTOCK MONITORING PROGRAM - PRE-SEASON SURVEY -1980
BACTERIOLOGICAL RESULTS

PROVINCE	AREA NO	DATE SAMPLED	MPN COLIFORM PER 100 GM.	MPN FAECAL COLIFORM PER 100 GM.	SAMPLING CONDITIONS	ACTIONS
Prince Edward Island	9-B SS-9-B	25/8/80	230	230	Clear, sunny and warm Tide medium, no rain for last four or five days	Request resample
	9-B	16/9/80	130	< 20	No information provided	okay
	2-A SS-2-H	26/8/80	230	130	Sunny and warm, tide medium Community pasture $\frac{1}{2}$ mile from site, no rain for one week	Request resample
	2-A SS-2-H	22/9/80	330	330	Cloudy and cool Tide medium	Request resample

TABLE VI
ENVIRONMENTAL CONDITIONS AT TIME OF SAMPLING (AREAS RESAMPLED ONLY)
OYSTER SHELLSTOCK MONITORING PROGRAM - PRE-SEASON SURVEY -1980
BACTERIOLOGICAL RESULTS

PROVINCE	AREA NO	DATE SAMPLED	MPN COLIFORM PER 100 GM.	MPN FAECAL COLIFORM PER 100 GM.	SAMPLING CONDITIONS	ACTIONS
Prince Edward Island	2-A SS-2-H	20/10/80	20	20	Cool and cloudy Tide - medium Rain two days before sampling	Okay
New Brunswick	54	10/09/80	330	68	Clear, wind-NE-9mph Temp, air - 70 degrees F. Temp, water - 70 degrees F. Public bed	Acceptable
New Brunswick	54	10/09/80	78	78	Clear, wind NE -9mph Air temp, 70 degrees F. Water temp, 70 degrees F. Public bed	Acceptable
New Brunswick	54	27/08/80	230	130	Clear, wind-South 5mph Air temp - 62 degrees F. Water temp - 68 degrees F. Private bed	Acceptable

TABLE VI

ENVIRONMENTAL CONDITIONS AT TIME OF SAMPLING (AREAS RESAMPLED ONLY)

OYSTER SHELLSTOCK MONITORING PROGRAM - PRE-SEASON SURVEY -1980

BACTERIOLOGICAL RESULTS

PROVINCE	AREA NO	DATE SAMPLED	MPN COLIFORM PER 100 GM.	MPN FAECAL COLIFORM PER 100 GM.	SAMPLING CONDITIONS	ACTIONS
New Brunswick	54	27/08/80	170	110	Clear, wind South 5mph Air temp - 62 degrees F. Water temp - 68 degrees F. Private bed	Acceptable
New Brunswick	56	15/08/80	<20	<20	Wind, South - 5 mph Clear day Air temp - 72 degrees F. Water temp - 68 degrees F.	Acceptable

