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CHESAPEAKE BAY BASELINE DATA ACQUISITION

SHELLFISH BED CLOSURES

Contract No. 68-01-3994

between

U. S. Environmental Protection Agency

and

Chesapeake Research Consortium, Incorporated

July 1978

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APPENDIX V

SHELLFISH BED CLOSURES

A Report
under EPA Contract No. 68-01-3994.

July 1978

Chesapeake Research Consortium, Incorporated

prepared by

University of Maryland,
Center for Environmental and Estuarine Studies

and

Virginia Institute of Marine Science

Chesapeake Research Consortium, Incorporated
1419 Forest Drive, Suite 207
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Smithsonian Institution
Virginia Institute of Marine Science*

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INTRODUCTION

This report forms one of several appendices which are the body of the Chesapeake Bay Baseline Data Acquisition Final Report. These appendices are as follows:

- Appendix I. A Chesapeake Bay Directory
- Appendix II. Submerged Aquatic Vegetation
- Appendix III. Toxics in the Chesapeake Bay
- Appendix IV. Eutrophication
- Appendix V. Shellfish Bed Closures
- Appendix VI. Dredging and Spoil Disposal
- Appendix VII. Modification of Fisheries
- Appendix VIII. Hydrologic Modifications
- Appendix IX. Wetlands Alteration
- Appendix X. Effects of Boating and Shipping
on Water Quality
- Appendix XI. Shoreline Erosion

This report comprises three sections as follows:

Annex I. contains scientists presently engaged in research in this field.

Annex II. is an indexed listing of data files pertinent to the Chesapeake Bay and adjacent coastal states.

Annex III. summarizes the monitoring efforts as derived from Annex II.

The source material for appendices IV-XI includes minimal material based on interviews, field work and verification. Efforts were directed to determining researchers and their activities from "A Chesapeake Bay Directory" only. For each of the eight subject areas, a key word list was also formulated and the respective pertinent data files compiled from the Environmental Data Base Directory. These files served as the primary source for the monitoring programs section.

ANNEX I

Directory of Researchers

Shellfish Bed Closures

This "Directory of Researchers" contains a listing of scientists who are presently working in this field, their affiliations and their specific research activities. The information was compiled from "A Chesapeake Bay Directory" by A. McErlean et al. which was published as a partial fulfillment of this contract.

For researchers and research activities in other national and international areas the reader is referred to the "International Directory of Marine Scientists," issued by the Food and Agriculture Organization of the United Nations in 1977. Copies of this directory are available at the following locations:

EPA Region III
Chesapeake Bay Program Office
Curtis Building
6th and Walnut Streets
Philadelphia, PA 19106

Chesapeake Research Consortium
1419 Forest Drive
Suite 207
Annapolis, MD 21403

University of Maryland, Center for Environmental and
Estuarine Studies
ATTN: Karen Rutledge
P. O. Box 775
Horn Point Rd.
Cambridge, MD 21613

Virginia Institute of Marine Science
ATTN: Thomas Lochen
Gloucester Point, VA 23062

ANNEX I

Directory of Researchers

Shellfish Bed Closures

Bender, M. E. Virginia Institute of Marine Science	Eutrophication, water quality criteria for aquatic life, kepone, pesticides, heavy metals - Chesapeake Bay.
Birkner, F. B. University of Maryland	Heavy metals in oysters.
Boon, D. D. Marine Products Laboratory, University of Maryland	Heavy metal concentrations in shellfish - Chesapeake Bay.
Brands, R. U. S. Food and Drug Administration	Specialist for shellfish sanitation.
Cockey, R. R. Marine Products Laboratory, University of Maryland	Marine microbiological processes, public health aspects of pollution.
Cole, M. A. Chesapeake Biological Laboratory, University of Maryland	Aquatic microbiology.
Colwell, R. R. University of Maryland	Classification of marine bacteria, pollution degradation by micro- organisms, microbial ecology, incidence of pathogens.
Cooney, J. J. Chesapeake Biological Laboratory, University of Maryland	Microbial physiology and ecology, metabolism of hydrocarbons, photo- killing of bacteria and microbial transformations of metals.
Drobeck, K. G. Chesapeake Biological Laboratory, University of Maryland	Aquatic microbiology.

Dunnington, E. A. Chesapeake Biological Laboratory. University of Maryland	Shellfish biology.
Eisenberg, M. Maryland Department of Health and Mental Hygiene	Shellfish sanitation.
Gross, M. G. Chesapeake Bay Institute, Johns Hopkins University	Sediments and wastes in coastal and ocean environment, urban effects in ocean.
Haley, A. J. University of Maryland	Parasites and disease of Bay fauna.
Haven, D. S. Virginia Institute of Marine Science	Physiology of mollusks, natural sediments of oyster bars.
Heatfield, B. M. University of Maryland	Neoplasia and phagocytosis in bivalves.
Hetrick, F. M. University of Maryland	Human enteroviruses in Bay and Bay biota.
Hiegel, M. H. Chesapeake Biological Laboratory, University of Maryland	Benthic invertebrates.
Howard, L. V. University of Maryland	Human pathogens in aquatic environments.
Huggett, R. J. Virginia Institute of Marine Science	Heavy metals, pesticides, oil pollution, water quality criteria.
Ingling, A. L. University of Maryland	Microbiology and pathobiology of soft-shelled clams.
Kaiser, H. E. University of Maryland	Invertebrate toxicology.
Kator, H. E. Virginia Institute of Marine Science	Microbiology of hydrocarbon degradation, microbiology of estuaries and marshlands.

Kennedy, V. S. Horn Point Environmental Laboratory, University of Maryland	Benthic ecology, oyster reproduction and settlement.
Krantz, G. E. Horn Point Environmental Laboratory, University of Maryland	Shellfish biology, diseases of finfish and estuarine organisms, hatchery techniques.
Krantz, L. Horn Point Environmental Laboratory, University of Maryland	Shellfish histology.
Mountford, N. K. Chesapeake Biological Laboratory, University of Maryland	Benthic invertebrates.
Neilson, B. J. Virginia Institute of Marine Science	Dispersion reaeration and stratification in estuaries.
Perkins, F. O. Virginia Institute of Marine Science	Management of marine and estuarine resources, coastal zone management, cell biology of marine protists.
Pfitzenmeyer, H. T. Chesapeake Biological Laboratory, University of Maryland	Benthic invertebrate ecology, shellfish biology and management.
Phelps, H. Federal City College	Heavy metals, chelation and adsorption of cadmium by shellfish.
Rhodes, M. W. Virginia Institute of Marine Science	Bacteriology.
Roosenburg, W. H. Chesapeake Biological Laboratory, University of Maryland	Biology and toxicology of shellfish.
Rosenkranz, A. M. Chesapeake Biological Laboratory, University of Maryland	Biology and toxicology of shellfish.

Spoon, D. M.
Georgetown University

Protozoans and pollutants in
in the Potomac River.

Sprague, V.
Chesapeake Biological Laboratory,
University of Maryland

Protozoan diseases and
disease agents.

Weiner, R. M.
University of Maryland

Microbial, ecology, pathogen
input, microbial degradative
processes.

Wheaton, F. W.
University of Maryland

Fisheries and shellfish,
aquaculture, seafood
processing.

Wiley, C. W.
Virginia Department of Health

Shellfish sanitation.

ANNEX II

Data Files

Shellfish Bed Closures

ANNEX II

Data Files

Part A

Data Files

Shellfish Bed Closures

The data files included in this section are arranged by EDBD accession number. This number should be used in inquiries to EDBD or in specific citations of files. However, for the purposes of this report, these files were assigned unique page numbers.

Files of areas adjacent to the Chesapeake Bay such as North Carolina, Delaware, New Jersey and Pennsylvania have been included when encountered.

THE ENCLOSED LISTING IS A SELECTION OF FILE DESCRIPTIONS FROM THE INDEX SYSTEM. IT IS POSSIBLE TO COLLECT USERS WITH REQUIREMENTS FOR HISTORICAL ENVIRONMENTAL DATA TO ADDRESS ONE OF THESE DATA. THIS OUTPUT WAS SELECTED FROM THE ENTIRE FILE BASED ON CERTAIN CRITERIA SPECIFIED BY THE USER. THESE CRITERIA ARE REPEATED BELOW:

EDDD

THE OUTPUT IS IN TWO PARTS. FIRST IS A LISTING OF ALL THE EDOS'S SELECTED, PRINTED IN 10 NUMBER COLUMNS. AT THE BACK OF EACH OUTPUT MAY BE A CROSS-INDEX LISTING SUCH THINGS AS WHICH FILE DESCRIPTIONS DESCRIBE DATA COLLECTED ON EACH PLATFORM-TIME, OR WHICH FILE DESCRIPTIONS HAVE DATA IN EACH GRID LOCATOR. THIS SECTION WILL VARY DEPENDING ON THE REQUIREMENTS OF THE USER. THE 10 NUMBER IS IN THE UPPER LEFT CORNER OF EACH FILE DESCRIPTION. THE FOLLOWING IS AN EXPLANATION OF FIELDS ON EACH PAGE.

- FILE NAME -- TOP CENTER OF PAGE. IDENTIFIED BY DATA HOLDER. ALSO, TIME RANGE OF DATA COLLECTION.
- PROJECTS -- LIST OF PROJECTS UNDER WHICH DATA CONTAINED IN FILES MAY HAVE BEEN COLLECTED.
- GENERAL GEOGRAPHIC AREA -- BEGINS WITH CONTINENT OR OCEAN IN WHICH DATA WERE COLLECTED AND DESCRIBES SMALLER AND SMALLER AREAS TO GIVE USER A GENERAL AREA OF DATA COLLECTION.
- ABSTRACT -- CONTAINS GENERAL INFORMATION ABOUT WHY THE DATA WERE COLLECTED AND WHERE, METHODS OF ANALYSIS AND PERTINENT CONCLUSIONS.
- DATA AVAILABILITY -- CONTAINS RESTRICTIONS ON DATA USE, IF BLANK IT MEANS THERE ARE NO KNOWN RESTRICTIONS.
- PLATFORM TYPES -- LIST OF TYPES OF PLATFORMS (IF ANY) USED TO COLLECT DATA.
- ARCHIVE MEDIA -- MEDIA ON WHICH DATA ARE STORED AND A ROUGH ESTIMATE OF THE SIZE OF THE FILE.
- FUNDING -- ORGANIZATION FUNDING THE DATA COLLECTION (IF KNOWN).
- INVENTORY -- WHEN DETAILED INFORMATION ON STATION LOCATIONS, COUNTS OF OBSERVATIONS/SAMPLES, ETC. ARE AVAILABLE, IT WILL BE DENOTED HERE.
- PUBLICATIONS -- PUBLICATIONS RESULTING FROM THIS DATA SET (LIST IS SOMETIMES CONDENSED).
- CONTACT -- NAME, ADDRESS AND PHONE NUMBER OF PERSON TO CONTACT TO OBTAIN FURTHER INFORMATION OR ACTUAL COPIES OF DATA.
- GRID LOCATOR -- A SERIES OF NUMBERS USED TO MAKE GEOGRAPHIC RETRIEVAL POSSIBLE ON A COMPUTER. LATITUDE AND LONGITUDE ARE COMBINED INTO A SINGLE NUMBER. THE WORLD METEOROLOGICAL ORGANIZATION (WMO) CODE IS USED TO IDENTIFY AREAS WHERE DATA WERE COLLECTED. THIS MAY BE A 4-6-8, OR 10-DIGIT NUMBER DEPENDING ON WHETHER THE DATA HOLDER CHOSE TO IDENTIFY AREAS DOWN TO 10-DEGREE SQUARES OF LATITUDE AND LONGITUDE OR TO 1-DEGREE, 10-MINUTE, OR 1-MINUTE SQUARES. FOR A 4-DIGIT GRID LOCATOR THE NUMBERS ARE AS FOLLOWS:
 DIGIT 1 -- QUADRANT OF GRID LOCATOR. 3=SE, 5=SW, 7=NE.
 DIGIT 2 -- TENS DIGIT OF LATITUDE.
 DIGITS 3/4 -- HUNDREDS AND TENTHS DIGITS OF LONGITUDE.
 THUS 7408 WOULD BE THE 10-DIGIT GRID LOCATOR OF WHICH THE POINT 40N AND 080W IS THE LOWER RIGHT HAND CORNER.
 FOR A SIX DIGIT NUMBER, DIGITS 5 AND 6 REPRESENT THE UNITS DIGITS OF LATITUDE AND LONGITUDE. THUS 740813 WOULD IDENTIFY THE 1-DEGREE SQUARE OF 42N AND 081E.
 WITH AN 8-DIGIT NUMBER, 74080813 REPRESENTS THE SQUARE AT 42-DEGREES, 30-MINUTES NORTH AND 100-DEGREES, 40-MINUTES WEST, OR 10-MINUTE SQUARE.

THE SMALLEST AREA IDENTIFIED IN THE SECTION IS A 1-MINUTE SQUARE.
OR A 1-DIGIT GRID LATER EPOCH. THE DATA IS 12-10-65
31-10-65 NORTH AND 205-DEGREE, 25-MINUTES WEST).

PARAMETER IDENTIFICATION SECTION -- THIS PORTION OF THE FILE DESCRIPTION
CONTAINS A LIST OF PARAMETERS MEASURED, THE SPHERE IT WAS MEASURED
IN, THE METHOD USED AND THE UNITS OF MEASUREMENT. IN ADDITION,
SUCH INFORMATION AS THE NUMBER OF MEASUREMENTS OF EACH PARAMETER
AND THE FREQUENCY (IF REGULARLY SPACED) ARE REPORTED. A SPECIALIZED INDEX
VOCABULARY IS AVAILABLE DEFINING THE PARAMETER, SPHERE, AND METHOD TERMS
USED.

QUESTIONS CONCERNING THIS OUTPUT SHOULD BE RELAYED TO THE NODC
OCEANOGRAPHIC SERVICES BRANCH (202) 634-7500 OR TO THE DATA INDEX BRANCH
(202) 634-7298.

PROJECTS:

GENERAL GEOGRAPHIC AREA:

NORTH ATLANTIC, COASTAL, U.S., CHESAPEAKE BAY, MARYLAND

ABSTRACT:

EXTENSIVE SURVEY OF SOFT CLAM POPULATION AND DISTRIBUTION AFTER THE PASSAGE OF HURRICANE AGNES. DATA COLLECTED BY COMMERCIAL CLAM FISHERMEN. MARKET AND SUB-MARKET COUNTS, VOLUME PER ACRE, SIZE IN INCHES FOR SUBMARET CLAMS.
(DATA SHEETS TO BE MICROFILMED FOR STORAGE)

DATA AVAILABILITY:

COST OF RETRIEVAL

PLATFORM TYPES:

SHIP

ARCHIVE MEDIA:

MAGNETIC TAPE DIGITAL; DATA SHEETS

1" CUBIC FEET OF DATA SHEETS, 2-6 INCH THICK COMPUTER PRINTOUTS

FUNDING:

MD DNR

INVENTORY:

PUBLICATIONS:

CONTACT:

F L HAMONS 301-267-5784
MARYLAND DEPARTMENT OF NATURAL RESOURCES
TAWES STATE OFFICE BUILDING
ANNAPOLIS MARYLAND USA 21401

GRID LOCATOR (LAT):

730785 730786 730796

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
POSITION	EARTH	FIXED POINT	MAP	31000 STATIONS			
TIME	EARTH	STATION TIME	YMD	31000 STATIONS			
DEPTH	WATER	WIRE LENGTH	FEET	31000 OBS	1 TIME EACH STATION	BOTTOM	
BOTTOM TYPE	BOTTOM	VISUAL	SOFT, MEDIUM, HARD, OYSTER	31000 OBS	1 TIME EACH STATION	BOTTOM	
COUNT OF BENTHIC ANIMALS	BOTTOM	VISUAL	PER CENT OF SAMPLE THAT WAS MARKET SIZE	31000 OBS	1 TIME EACH STATION	BOTTOM	SOFT CLAM ONLY, 12 SQ FT SAMPLE WITH CUTTING HEAD DREDGE
VOLUME DETERMINA BOTTOY		VISUAL	BUSHELS PER	31000 OBS	1 TIME EACH	BOTTOM	

PARAMETER IDENTIFICATION SECTION:

NAME	SPECE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
TION OF BENTHIC ANIMALS			ACRE FOR MARKET AND SUBMARKET SIZE		STATION		
LENGTH OF BENTHIC ANIMALS	BOTTOM	DIRECT	INCHES, MEAN SIZE AND RANGE FOR MARKET AND SUBMARKET SOFT CLAMS	31000 OBS	1 TIME EACH STATION	BOTTOM	

000671

HEAVY METALS IN HARD CLAMS
DATA COLLECTED: MARCH 1972 TO FEBRUARY 1973

PAGE 01
RECEIVED: JANUARY 01, 1978

PROJECTS:

GENERAL GEOGRAPHIC AREA:

U.S., COASTAL, NORTH ATLANTIC, LOWER CHESAPEAKE BAY, VIRGINIA, JAMES RIVER, YORK RIVER

ABSTRACT:

ZINC, COPPER AND CADMIUM LEVELS WERE MEASURED IN HARD CLAMS (MERCENARIA MERCENARIA) COLLECTED AT 35 LOCATIONS IN THE LOWER CHESAPEAKE BAY OVER A ONE YEAR PERIOD BEGINNING MARCH 1972.

DATA AVAILABILITY:

THE RESULTS OF THE STUDY ARE AVAILABLE ON DATA SHEETS FROM VINS.

PLATFORM TYPES:

SHIP

ARCHIVE MEDIA:

DATA SHEETS
1200 OBS

FUNDING:

INVENTORY:

PUBLICATIONS:

CONTACT:

DR. PETER LARSEN 207 633 5572
MAINE DEPARTMENT OF MARINE RESOURCES
WEST BOOTHBAY HARBOR MAINE USA 04575

GRID LOCATOR (LAT):

730776 730766

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
POSITION	EARTH	FIXED POINT	DM	35	STATIONS		MERCENARIA
TIME	EARTH	STATION TIME	YMDL	35	STATIONS		MERCENARIA
ZINC IN BIO	WATER	ATOMIC ABSORPTION	PARTS PER MILLION	400	OBS		MERCENARIA
MATERIAL	WATER	SPECTROMETRY	MILLION	400	OBS		MERCENARIA
COPPER IN BIO	WATER	ATOMIC ABSORPTION	PARTS PER MILLION	400	OBS		MERCENARIA
MATERIAL	WATER	SPECTROMETRY	MILLION	400	OBS		MERCENARIA
CADMIUM IN BIO	WATER	ATOMIC ABSORPTION	PARTS PER MILLION	1	OBS		MERCENARIA
MATERIAL	BOTTOM	SPECTROMETRY	NAME				MERCENARIA
SPECIES		KEY					MERCENARIA
DETERMINATION							MERCENARIA
OF BENTHIC							MERCENARIA
ANIMALS							MERCENARIA

000770

HEAVY METALS IN HARD CLAMS AND OYSTERS
DATA COLLECTED: NOVEMBER 1972 TO DECEMBER 1972

PAGE 01
RECEIVED: MAY 16, 1973

PROJECTS:

GENERAL GEOGRAPHIC AREA:

U.S., COASTAL, NORTH ATLANTIC, CHESAPEAKE BAY, VIRGINIA, LOWER JAMES RIVER, NEWPORT NEWS SHIPYARD

ABSTRACT:

130 OBSERVATIONS OF HEAVY METALS IN HARD CLAMS AND OYSTERS WERE OBSERVED AT 20 STATIONS IN THE NEWPORT NEWS SHIPYARD. COPPER, ZINC, AND CADMIUM WERE DETECTED BY ATOMIC ABSORPTION SPECTROMETRY

DATA AVAILABILITY.

PLATFORM TYPES:

SHIP

ARCHIVE MEDIA:

DATA SHEETS; REPORTS

DATA SHEETS FOR 20 STATIONS MEASURED FOR 2 MONTHS

FUNDING:

INVENTORY:

PUBLICATIONS:

REPORT TO BE SENT TO NEWPORT NEWS SHIPBUILDING AND DRYDOCK COMPANY

CONTACT:

ROBERT HUGGETT 703-642-2111
VIRGINIA INSTITUTE OF MARINE SCIENCE
GLOUCESTER POINT VIRGINIA USA 23062

GRID LOCATOR (LAT):
730776 730766

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
POSITION	EARTH	FIXED POINT	MAP LOCATIONS	20	STATIONS		
TIME	EARTH	STATION TIME	YMDL	20	STATIONS		
COPPER IN BIO MATERIAL	WATER	ATOMIC ABSORPTION SPECTROMETRY	PARTS PER MILLION	130	OBS		CRASSOSTREA VIRGINICA, MERCENARIA, MERCENARIA, CRASSOSTREA VIRGINICA, MERCENARIA, MERCENARIA, CRASSOSTREA VIRGINICA, MERCENARIA, CRASSOSTREA
ZINC IN BIO MATERIAL	WATER	ATOMIC ABSORPTION SPECTROMETRY	PARTS PER MILLION	130	OBS		CRASSOSTREA VIRGINICA, MERCENARIA, MERCENARIA, CRASSOSTREA VIRGINICA, MERCENARIA, MERCENARIA, CRASSOSTREA VIRGINICA, MERCENARIA, CRASSOSTREA
CADMIUM IN BIO MATERIAL	WATER	ATOMIC ABSORPTION SPECTROMETRY	PARTS PER MILLION	130	OBS		CRASSOSTREA VIRGINICA, MERCENARIA, MERCENARIA, CRASSOSTREA VIRGINICA, MERCENARIA, MERCENARIA, CRASSOSTREA VIRGINICA, MERCENARIA, CRASSOSTREA
SPECIES	BOTTOM	KEY	NAME	130	OBS		CRASSOSTREA VIRGINICA, MERCENARIA, MERCENARIA, CRASSOSTREA VIRGINICA, MERCENARIA, MERCENARIA, CRASSOSTREA VIRGINICA, MERCENARIA, CRASSOSTREA

HEAVY METALS IN HARC CLAMS AND OYSTERS (CONT.)

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
DETERMINATION OF BENTHIC ANIMALS							VIRGINICA, MERCENARIA MERCENARIA

PROJECTS:

GENERAL GEOGRAPHIC AREA:

U.S., COASTAL, NORTH ATLANTIC, CHESAPEAKE BAY, VIRGINIA, JAMES RIVER, YORK RIVER, RAPPAHANNOCK RIVER, VIRGINIA

ABSTRACT:

HEAVY METALS IN OYSTERS (CRASSOSTREA VIRGINICA) WERE SAMPLED AT 95 STATIONS IN THE LOWER CHESAPEAKE BAY. DATA APPEARS IN WATER RESEARCH 1973, VOL 7 PP451-460

DATA AVAILABILITY:

PLATFORM TYPES:

SHIP

ARCHIVE MEDIA:

DATA SHEETS

DATA SHEETS FOR 95 DAILY STATIONS

FUNDING:

INVENTORY:

PUBLICATIONS:

WATER RESEARCH 1973 VOL 7, 451-460

CONTACT:

ROBERT HUGGETT 703-642-2111 X83
VIRGINIA INSTITUTE OF MARINE SCIENCE
GLOUCESTER POINT VIRGINIA USA 23062

GRID LOCATOR (LAT):

730766 730776

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
POSITION	EARTH	FIXED POINT	MAP LOCATIONS	95	STATIONS		
TIME	EARTH	STATION TIME	YMDL	450	STATIONS		
COPPER IN BIO MATERIAL	WATER	ATOMIC ABSORPTION SPECTROMETRY	PARTS PER MILLION, BODY WET WEIGHT	450	OBS	BOTTOM	CRASSOSTREA VIRGINICA
CADMIUM IN BIO MATERIAL	WATER	ATOMIC ABSORPTION SPECTROMETRY	PARTS PER MILLION, BODY WET WEIGHT	450	OBS	BOTTOM	CRASSOSTREA VIRGINICA
ZINC IN BIO MATERIAL	WATER	ATOMIC ABSORPTION SPECTROMETRY	PARTS PER MILLION, BODY WET WEIGHT	450	OBS	BOTTOM	CRASSOSTREA VIRGINICA
SPECIES DETERMINATION OF BENTHIC ANIMALS	BOTTOM	KEY	NAME	450	OBS	BOTTOM	CRASSOSTREA VIRGINICA

000778

HEAVY METALS IN RANGIA CUNEATA
DATA COLLECTED: SEPTEMBER 1972 TO PRESENT

PAGE 01
RECEIVED: MAY 01, 1978

PROJECTS:

GENERAL GEOGRAPHIC AREA:

U.S., COASTAL, NORTH ATLANTIC, CHESAPEAKE BAY, VIRGINIA, JAMES RIVER, RAPPAHANNOCK RIVER

ABSTRACT:

HEAVY METALS IN THE CLAM (RANGIA CUNEATA) AT 60 STATIONS FROM 1972 TO THE PRESENT IN THE JAMES AND RAPPAHANNOCK RIVERS

DATA AVAILABILITY:

PLATFORM TYPES:

SHIP

ARCHIVE MEDIA:

DATA SHEETS

DATA SHEETS FOR 7 PARAMETERS AT 60 STATIONS

FUNDING:

INVENTORY:

PUBLICATIONS:

VIMS SPECIAL SCIENTIFIC REPORT NO 44

CONTACT:

ROBERT CROONENBERG 703-642-2111
VIRGINIA INSTITUTE OF MARINE SCIENCE
GLOUCESTER POINT VIRGINIA USA 23062

GRID LOCATOR (LAT):
730776 730787

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
POSITION	EARTH	FIXED POINT	RIVER MILES	60 STATIONS			
TIME	EARTH	STATION TIME	YMDL	60 STATIONS			
COPPER IN BIO	WATER	ATOMIC ABSORPTION	PARTS PER MILLION	600 OBS			RANGIA CUNEATA
ZINC IN BIO	WATER	SPECTROMETRY	MILLION				
WATER		ATOMIC ABSORPTION	PARTS PER MILLION	600 OBS			RANGIA CUNEATA
CAO MU IN BIO	WATER	SPECTROMETRY	MILLION	600 OBS			RANGIA CUNEATA
WATER		ATOMIC ABSORPTION	PARTS PER MILLION				
MATERIAL	SEDIMENT	SPECTROMETRY	PERCENT SAND, SILT, CLAY	60 OBS			
SIZE ANALYSIS		SETTLING/VISUAL					
LENGTH OF BENTHIC ANIMALS	BOTTOM	DIRECT	CENTIMETERS	600 OBS			RANGIA CUNEATA
BIOMASS OF BENTHIC ANIMALS	BOTTOM	WET WEIGHT	GRAMS	600 OBS			RANGIA CUNEATA

000778

HEAVY METALS IN RANGIA CUNEATA (CONT.)

PAGE 02

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
.....							
SPECIES	BOTTOM	KEY	NAME	60	OBS		RANGIA CUNEATA
DETERMINATION							
OF BENTHIC							
ANIMALS							

PROJECTS:

GENERAL GEOGRAPHIC AREA:

U.S., COASTAL, NORTH ATLANTIC, LOWER CHESAPEAKE BAY, VIRGINIA

ABSTRACT:

A REPORT OF BIOTA DISTRIBUTION IN THE LOWER CHESAPEAKE BAY. TAXONOMIC LISTS OF BENTHIC ANIMALS, BENTHIC PLANTS, PHYTOPLANKTON, PELAGIC FISH, MICROBIOTA, MAMMALS, BIRDS, REPTILES, AND AMPHIBIANS.

DATA AVAILABILITY:

PLATFORM TYPES:

ARCHIVE MEDIA:

REPORTS

10 PARAMETERS, 3111 OBSERVATIONS.

FUNDING:

INVENTORY:

PUBLICATIONS:

SPECIAL SCIENTIFIC REPORT NO 65 REPORT INCLUDES COMMENTS ON THE DISTRIBUTION OF EACH SPECIES, LITERATURE CITATIONS, COMMON NAMES, INDEX

CONTACT:

LIBRARIAN 703-642-2111
VIRGINIA INSTITUTE OF MARINE SCIENCE
GLOUCESTER POINT VIRGINIA USA 23062

GRID LOCATOR (LAT):

730766 730765 730776 730775

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
POSITION	EARTH	FIXED POINT	MAP LOCATIONS	4	STATIONS		LOCATION OCCURRENCE OF EACH SPECIES NOTED FREE LIVING INVERTEBRATES INCLUDED
TAXONOMIC LIST OF BENTHIC ANIMALS	BOTTOM	KEY	NAMED AND LISTED IN TAXONOMIC ORDER COMMON NAME INCLUDED	1005	OBS		NUMBER INCLUDES HIGHER BENTHIC PLANTS AND PHYTOPLANKTON
TAXONOMIC LIST OF PHYTOPLANKTON	WATER	KEY	NAMED AND LISTED IN TAXONOMIC ORDER COMMON NAME INCLUDED	1171	OBS		NUMBER INCLUDES
TAXONOMIC LIST	WATER	KEY	NAMED AND	286	OBS		NUMBER INCLUDES

PARAMETER IDENTIFICATION SECTION:

NAME	SPECIES	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
OF PELAGIC FISH							
TAXONOMIC LIST OF DEMERSAL FISH	WATER	KEY	LISTED IN TAXONOMIC ORDER COMMON NAME INCLUDED NAMED AND LISTED IN TAXONOMIC ORDER COMMON NAME INCLUDED	286	OBS		PELAGIC AND DEMERSAL FISH NUMBER INCLUDES PELAGIC AND DEMERSAL FISH
TAXONOMIC LIST OF MICROBIOTA	WATER	KEY	LISTED IN TAXONOMIC ORDER COMMON NAME INCLUDED	25	OBS		
TAXONOMIC LIST OF MICROBIOTA	SEDIMENT	KEY	LISTED IN TAXONOMIC ORDER COMMON NAME INCLUDED	25	OBS		
TAXONOMIC LIST OF MAMMALS	WATER	KEY	LISTED IN TAXONOMIC ORDER COMMON NAME INCLUDED	41	OBS		MAMMALS OF WATER WETLANDS AND BARRIER ISLANDS
TAXONOMIC LIST OF BIRDS	AIR	KEY	LISTED IN TAXONOMIC ORDER COMMON NAME INCLUDED	220	OBS		
TAXONOMIC LIST OF REPTILES	LAND	KEY	LISTED IN TAXONOMIC ORDER COMMON NAME INCLUDED	59	OBS		COASTAL PLAIN OF VA AND MD
TAXONOMIC LIST OF AMPHIBIANS	WATER	KEY	LISTED IN TAXONOMIC ORDER COMMON NAME INCLUDED	43	OBS		COASTAL PLAIN OF VA AND MD

RADIOACTIVITY STUDIES OF SEDIMENTS AT CALVERT CLIFFS
DATA COLLECTED: OCTOBER 1971 TO PRESENT

RECEIVED: JUNE 04, 1973

GENERAL GEOGRAPHIC AREA:

U.S., COASTAL, NORTH ATLANTIC, CHESAPEAKE BAY, MARYLAND, CALVERT CLIFFS

DATA SHEETS OF RADIOACTIVITY STUDIES OF SEDIMENTS AT CALVERT CLIFFS, CHESAPEAKE BAY, VIRGINIA. STUDIES INCLUDED SPECIES DETERMINATIONS AND MEASUREMENTS OF BETA ACTIVITY OF BENTHIC PLANTS AND PELAGIC AND DEMERSAL FISH, AND STUDIES OF SALINITY, PH, AND TURBIDITY. SAMPLING HAS BEEN DONE FOUR TIMES/YEAR AT SIX STATIONS SINCE NOVEMBER 1971.

PLATFORM TYPES:
SHIP

DATA SHEETS
12 PARAMETERS, 818 OBSERVATIONS, AT 6 STATIONS.

INVENTORY:

DATA TO BALTIMORE GAS AND ELECTRIC DATA BANK

DENNIS BURTON 301-274-3194
BENEDICT ESTUARINE LABORATORY
BENEDICT MARYLAND USA 20612

GRID LOCATOR (LAT):
730786

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
POSITION		FIXED POINT	MAP LOCATION	6	STATIONS		
TIME	EARTH	STATION TIME	YMDL	72	STATIONS		
PH	WATER	SPECIFIC ION	UNITS	72	OBS	SURFACE AND BOTTOM	
		ELECTRODE					
SALINITY	WATER	CONDUCTIVITY	PARTS PER THOUSAND	72	OBS	SURFACE AND BOTTOM	
LIGHT ATTENUATION	WATER	SPECTROPHOTOMETRY	PARTS PER MILLION	72	OBS	SURFACE AND BOTTOM	
BETA ACTIVITY	SEDIMENT	PLANCHET GAS FLOW COUNTER	PICOCURIES PER GRAM	126	OBS	SURFACE AND BOTTOM	ACTIVITY MEASURED RELATIVE TO CESIUM 137 BLUE CRABS, OYSTERS AND
BETA ACTIVITY IN BENTHIC	BOTTOM	PLANCHET GAS FLOW COUNTER	PICOCURIES PER GRAM	100	OBS	BOTTOM	

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
ANIMALS							
BETA ACTIVITY IN PELAGIC FISH	WATER	PLANCHET GAS FLOW COUNTER	PICOCURIES PER GRAM	120	OBS	4/YEAR	SURFACE AND BOTTOM
							VARIOUS OTHER ORGANISMS WHITE PERCH, BLUE FISH, STRIPED BASS, SPOT, BAY ANCHOVY, MEMDIA, VARIANCE COMPUTED BETWEEN AND WITHIN SPECIES
BETA ACTIVITY IN DEMERSAL FISH	WATER	PLANCHET GAS FLOW COUNTER	PICOCURIES PER GRAM	120	OBS	4/YEAR	SURFACE AND BOTTOM
							WHITE PERCH, BLUE FISH, STRIPED BASS, SPOT, BAY ANCHOVY, MEMDIA, VARIANCE COMPUTED BETWEEN AND WITHIN SPECIES
BETA ACTIVITY IN BENTHIC PLANTS	BOTTOM	PLANCHET GAS FLOW COUNTER	PICOCURIES PER GRAM	120	OBS	4/YEAR	BOTTOM
							ULVA SP, MONOSTOMA SP, ECTEROMORPHA SP, ECTOCARPUS SP
SPECIES DETERMINATION OF BENTHIC ANIMALS	BOTTOM	KEY	NAME	100	OBS	4/YEAR	BOTTOM
							BLUE CRABS, OYSTERS AND VARIOUS OTHER ORGANISMS
SPECIES DETERMINATION OF PELAGIC FISH	WATER	KEY	NAME	6	OBS	4/YEAR	SURFACE AND BOTTOM
							WHITE PERCH, BLUE FISH, STRIPED BASS, SPOT, BAY ANCHOVY, MEMDIA, VARIANCE COMPUTED BETWEEN AND WITHIN SPECIES
SPECIES DETERMINATION OF DEMERSAL FISH	WATER	KEY	NAME	6	OBS	4/YEAR	SURFACE AND BOTTOM
							WHITE PERCH, BLUE FISH, STRIPED BASS, SPOT, BAY ANCHOVY, MEMDIA, VARIANCE COMPUTED BETWEEN AND WITHIN SPECIES
SPECIES DETERMINATION	BOTTOM	KEY	NAME	4	OBS	4/YEAR	BOTTOM
							ULVA SP, MONOSTOMA SP,

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
.....							
OF BENTHIC							ECTEROMORPHA
PLANTS							SP, ECTOCARPUS
							SP

BENTHIC MACROINVERTEBRATE COMMUNITIES AS INDICATORS OF POLLUTION IN THE
ELIZABETH RIVER, HAMPTON ROADS, VIRGINIA
DATA COLLECTED: JANUARY 1968 TO AUGUST 1969

RECEIVED: JULY 13, 1973

PROJECTS:

GENERAL GEOGRAPHIC AREA:
U.S., COASTAL, NORTH ATLANTIC, CHESAPEAKE BAY, VIRGINIA, ELIZABETH RIVER

ABSTRACT:

STUDY OF BENTHIC MACROINVERTEBRATE COMMUNITIES OF ELIZABETH RIVER, HAMPTON ROADS, VIRGINIA AS INDICATORS OF POLLUTION.
BIOLOGICAL INDEX OF DOMINANCE, DENSITY, FREQUENCY, DISPERSAL, DOMINANCE AFFINITY COMPUTED.

DATA AVAILABILITY:

PLATFORM TYPES:
SHIP

ARCHIVE MEDIA:
REPORTS

12 STATIONS; 36 SAMPLES AND MEASUREMENTS TAKEN

FUNDING:

INVENTORY:

PUBLICATIONS:

VIMS THESIS 1971, M D RICHARDSON

CONTACT:

LIBRARIAN 804-642-2111
VIRGINIA INSTITUTE OF MARINE SCIENCE
GLOUCESTER POINT VIRGINIA USA 23062

GRID LOCATOR (LAT):
730766

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
POSITION 1	EARTH	FIXED POINT	MAP LOCATION	12 STATIONS			
TIME	EARTH	STATION TIME	YMDL	36 STATIONS			
DISSOLVED	WATER	TITRATION	MILLIGRAMS PER LITER	12 OBS		BOTTOM	
OXYGEN GAS	SEDIMENT	SETTLING/VISUAL	PERCENT SILT, CLAY SAND	36 OBS		BOTTOM	SAMPLES OBTAINED WITH A 0.06 M SQ PETERSON GRAB AND A 0.07 M SQ VAN VEEN GRAB
SIZE ANALYSIS							
DEPTH	WATER	WIRE LENGTH	METERS	36 OBS			
COUNT OF BENTHIC	BOTTOM	VISUAL	NUMBER OF INDIVIDUALS	36 OBS		BOTTOM	SAMPLES OBTAINED WITH

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
ANIMALS			PER M SQ PER STATION PER SAMPLING PERIOD				A 0.06 M SQ PETERSON GRAB AND A 0.07 M SQ VAN VEEN GRAB
SPECIES DETERMINATION OF BENTHIC ANIMALS	BOTTOM	KEY	NUMBER OF SPECIES PER STATION, NUMBER OF INDIVIDUALS PER SPECIES PER SAMPLING PERIOD	36	OBS	BOTTOM	BIOLOGICAL INDEX OF DOMINANCE, DENSITY, FREQUENCY, DISPERSAL, DOMINANCE AFFINITY COMPUTED
DIVERSITY INDEX OF BENTHIC ANIMALS	BOTTOM	SHANNON-WEAVER	NUMBERS	36	OBS	BOTTOM	

001062

TRACE METAL ENVIRONMENTS NEAR SHELL BANKS IN DELAWARE BAY
DATA COLLECTED: JANUARY 1972 TO JANUARY 1973

PAGE 01
RECEIVED: JULY 31, 1973

PROJECTS:

GENERAL GEOGRAPHIC AREA:
U.S., COASTAL, NORTH ATLANTIC, DELAWARE BAY, DELAWARE

ABSTRACT:

SURVEY OF TRACE METAL CONCENTRATIONS IN SEDIMENTS COLLECTED FROM THE DELAWARE BAY. REPORT CHARACTERIZED TRACE METALS TO THEIR
PRIMARY SOURCE AND THE MAJOR FACTOR INFLUENCING THEIR DISTRIBUTION

DATA AVAILABILITY:

PLATFORM TYPES:
SHIP

ARCHIVE MEDIA:
REPORTS

46 PAGES, MAPS ON THE DISTRIBUTION OF TRACE METALS

FUNDING:

INVENTORY:

PUBLICATIONS:

DELAWARE BAY REPORT SERIES VOL 3 REPORT NO 2 UNIV OF DEL, NEWARK, DEL

CONTACT:

FREDERICK BOPP 302-738-2842
COLLEGE OF MARINE STUDIES
UNIVERSITY OF DELAWARE
NEWARK DELAWARE USA 19711

GRID LOCATOR (LAT):

730785 730795 730794 730784

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
POSITION	EARTH	FIXED POINT	DMT	92	STATIONS		
TIME	EARTH	STATION TIME	YML	1	STATIONS		
IRON	SEDIMENT	ATOMIC ABSORPTION	PARTS PER MILLION	92	OBS		63 MICRON SEDIMENT FRACTION, HCL EXTRACTION
MAGNESIUM	SEDIMENT	ATOMIC ABSORPTION	PARTS PER MILLION	92	OBS		63 MICRON SEDIMENT FRACTION, HCL EXTRACTION
ZINC	SEDIMENT	ATOMIC ABSORPTION	PARTS PER MILLION	92	OBS		63 MICRON SEDIMENT FRACTION, HCL EXTRACTION

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
CHROMIUM	SEDIMENT	ATOMIC ABSORPTION SPECTROMETRY	PARTS PER MILLION	92	OBS		63 MICRON SEDIMENT FRACTION, HCL EXTRACTION
COPPER	SEDIMENT	ATOMIC ABSORPTION SPECTROMETRY	PARTS PER MILLION	92	OBS		63 MICRON SEDIMENT FRACTION, HCL EXTRACTION
LEAD	SEDIMENT	ATOMIC ABSORPTION SPECTROMETRY	PARTS PER MILLION	92	OBS		63 MICRON SEDIMENT FRACTION, HCL EXTRACTION
CADMIUM	SEDIMENT	ATOMIC ABSORPTION SPECTROMETRY	PARTS PER MILLION	92	OBS		63 MICRON SEDIMENT FRACTION, HCL EXTRACTION
NICKEL	SEDIMENT	ATOMIC ABSORPTION SPECTROMETRY	PARTS PER MILLION	92	OBS		63 MICRON SEDIMENT FRACTION, HCL EXTRACTION
STRONTIUM	SEDIMENT	ATOMIC ABSORPTION SPECTROMETRY	PARTS PER MILLION	92	OBS		63 MICRON SEDIMENT FRACTION, HCL EXTRACTION
MERCURY	SEDIMENT	ATOMIC ABSORPTION SPECTROMETRY	PARTS PER BILLION	92	OBS		63 MICRON SEDIMENT FRACTION, HCL EXTRACTION

001068

WATER QUALITY SURVEY OF LOWER CHESAPEAKE BAY
DATA COLLECTED: MARCH 1973 TO MARCH 1973

PAGE 01
RECEIVED: JULY 31, 1973

PROJECTS:

GENERAL GEOGRAPHIC AREA:

U.S., COASTAL, NORTH ATLANTIC, LOWER CHESAPEAKE BAY, VIRGINIA

ABSTRACT:

WATER QUALITY AND HYDROGRAPHIC SURVEY OF THE CHESAPEAKE BAY ON TRANSECTS FROM THE BAY MOUTH TO ANNAPOLIS, MD.

DATA AVAILABILITY:

PLATFORM TYPES:

SHIP

ARCHIVE MEDIA:

DATA SHEETS
20 STATIONS

FUNDING:

INVENTORY:

PUBLICATIONS:

CONTACT:

DONALD ADAMS 804-489-8000
OLD DOMINION UNIVERSITY
INSTITUTE OF OCEANOGRAPHY
NORFOLK VIRGINIA USA 23508

GRID LOCATOR (LAT):
730776 730775

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
POSITION	EARTH	FIXED POINT	MAP LOCATION	20 STATIONS			
TIME	EARTH	STATION TIME	YMDL	1 STATIONS			
TEMPERATURE	WATER	NON-REVERSING THERMOMETER	DEG C	66 OBS			
SALINITY	WATER	CONDUCTIVITY	PARTS PER THOUSAND	66			
PH	WATER	SPECIFIC ION ELECTRODE	PH UNITS	66 OBS			
DISSOLVED OXYGEN GAS	WATER	TITRATION	MILLIGRAMS PER LITER	66 OBS			
ORTHOPHOSPHATE	WATER	SPECTROPHOTOMETRY	MICROGRAM ATOMS PER LITER	66 OBS			
NITRATE	WATER	SPECTROPHOTOMETRY	MICROGRAM ATOMS PER LITER	66 OBS			
PARTICULATE	WATER	MEMBRANE	MILLIGRAMS PER	66 OBS			

PERCENT SATURATION COMPUTED

SURFACE TO BOTTOM
SURFACE TO BOTTOM
SURFACE TO BOTTOM
SURFACE TO BOTTOM
SURFACE TO BOTTOM
SURFACE TO BOTTOM
SURFACE TO BOTTOM
SURFACE TO BOTTOM
SURFACE TO BOTTOM
SURFACE TO BOTTOM

PARAMETER IDENTIFICATION SECTION:

NAME	SPECIE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
WATER							
DEPTH	WATER	FILTRATION	LITER			BOTTOM	DEPTH OF SAMPLE
BIOCHEMICAL	WATER	WIRE LENGTH	FEET	66	OBS		
OXYGEN DEMAND	WATER	TITRATION	MILLIGRAMS PER LITER	66	OBS	SURFACE TO BOTTOM	
CHEMICAL OXYGEN DEMAND	WATER	TITRATION	MILLIGRAMS PER LITER	66	OBS	SURFACE TO BOTTOM	
COUNT OF MICROBIOTA	WATER	VISUAL	NUMBER PER 100 MILLILITERS	66	OBS	SURFACE TO BOTTOM	FECAL COLIFORM
METHANE IN BIO MATERIAL	WATER	GAS CHROMATOGRAPH Y	ML X10 -5 PER LITER	60	OBS	SURFACE TO BOTTOM	

CU1083

DESCRIPTIONS OF FECAL PELLETS OF SOME COMMON INVERTEBRATES IN THE LOWER YORK RIVER AND LOWER CHESAPEAKE BAY, VIRGINIA
DATA COLLECTED: 1964 TO OCTOBER 1965

PAGE 01

RECEIVED: JULY 31, 1973

PROJECTS:

GENERAL GEOGRAPHIC AREA:

U.S., COASTAL, NORTH ATLANTIC, CHESAPEAKE BAY, VIRGINIA, YORK RIVER

ABSTRACT:

FECAL MATERIAL VOIDED BY 71 INVERTEBRATE SPECIES IS DESCRIBED. PELLETS MEASUREMENTS RELATED TO SIZE OF ANIMALS. PELLETS CHARACTERISTICS DESCRIBED ARE CROSS-SECTIONAL SHAPE, SCULPTURE, DIFFERENTIATION, COMPOSITION AND SHAPE.

DATA AVAILABILITY:

PLATFORM TYPES:

S-41P

ARCHIVE MEDIA:

REPORTS

48 PAGES; 3 PLATES

FUNDING:

INVENTORY:

PUBLICATIONS:

FECAL PELLETS OF COMMON INVERTEBRATES OF LOWER YORK RIVER AND LOWER CHESAPEAKE BAY, VIRGINIA, J N KRAEUTER, D S HAVEN, 1970, CHES SCI, 11 (3): 159-173, VIMS SYMPOSIUM, 1966, J N KRAEUTER

CONTACT:

LIBRARIAN 804-642-2111
VIRGINIA INSTITUTE OF MARINE SCIENCE
GLOUCESTER POINT VIRGINIA USA 23062

GRID LOCATOR (LAT):
730776

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
POSITION	EARTH	FIXED POINT	MAP LOCATION	2 STATIONS			COLLECTION AREAS OF LOWER YORK RIVER AND HAMPTON ROADS CONSIDERED AS TWO STATIONS
TIME	EARTH	STATION TIME	YL	2 STATIONS			COLLECTION AREAS OF LOWER YORK RIVER AND HAMPTON ROADS CONSIDERED AS TWO STATIONS
FECAL ANALYSIS	BOTTOM	VISUAL	VARIABLE	71	OBS		FECAL PELLETS

DESCRIPTIONS OF FECAL PELLETS OF SOME COMMON INVERTEBRATES IN THE LOWER YORK (CONT.)
 RIVER AND LOWER CHESAPEAKE BA., VIRGINIA

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIG.T/DEPTH	REMARKS
OF BENTHIC ANIMALS							ANALYSIS OF 71 INVERTEBRATE SPECIES; SIZE, SHAPE AND COMPOSITION NOTED 71 SPECIES
SPECIES DETERMINATION OF BENTHIC ANIMALS	BOTTOM	KEY	NAMES	71	OBS		
TAXONOMIC LIST OF BENTHIC ANIMALS	BOTTOM	KEY	TAXA	1	OBS		ANNOTATED TAXONOMIC LIST, COMMENTS ON GENERAL DESCRIPTION OF FECAL PELLETS, SIZE OF ANIMAL

001176

WASHINGTON ROADS. CRANEY ISLAND SURVEY
DATA COLLECTED: NOVEMBER 1972 TO PRESENT

RECEIVED: AUGUST 08, 1973
PAGE 01

PROJECTS:

GENERAL GEOGRAPHIC AREA:

U.S., COASTAL, NORTH ATLANTIC, CHESAPEAKE BAY, VIRGINIA, CRANEY ISLAND, BUCKROE BEACH

ABSTRACT:

COMPARATIVE STUDY OF BIOTIC AND ABIOTIC PARAMETERS OF CRANEY ISLAND AND BUCKROE BEACH AREAS. SURVEY OF FISH, INVERTEBRATES AND HEAVY METALS

DATA AVAILABILITY.

PLATFORM TYPES:

SHIP

ARCHIVE MEDIA:

DATA SHEETS
120 SAMPLING EFFORTS

FUNDING:

US ARMY CORPS OF ENGINEERS

INVENTORY:

PUBLICATIONS:

REPORT SENT TO U S ARMY CORPS OF ENGINEERS

CONTACT:

RAY BIRDSONG 804-489-8000
OLD DOMINION UNIVERSITY
INSTITUTE OF OCEANOGRAPHY
NORFOLK VIRGINIA USA 23508

GRID LOCATOR (LAT):

730776 730'36

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
POSITION	EARTH	FIXED POINT	MAP LOCATION	2 STATIONS	MONTHLY		
TIME	EARTH	STATION TIME	YMOHL	12	MONTHLY		
SALINITY	WATER	CONDUCTIVITY	PARTS PER THOUSAND	120 OBS	MONTHLY	SURFACE	
SALINITY	WATER	HYDROMETER	PARTS PER THOUSAND	120 OBS	MONTHLY	SURFACE	
TEMPERATURE	WATER	NON-REVERSING THERMOMETER	DEG C	120 OBS	MONTHLY	SURFACE	
SPECIES DETERMINATION OF DEMERSAL FISH	WATER	KEY	NUMBER OF SPECIES PER SAMPLE, NUMBER OF INDIVIDUALS PER SPECIES	120 OBS	MONTHLY	SURFACE	10 FOOT OTTER TRAWL, 1 INCH MESH, BEACH SEINE

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
COUNT OF DEMERSAL FISH	WATER	VISUAL	NUMBER OF INDIVIDUALS PER STATION	120 OBS	MONTHLY	SURFACE	
BIOMASS OF DEMERSAL FISH	WATER	WET WEIGHT	WEIGHT PER STATION	120 OBS	MONTHLY	SURFACE	10 FOOT OTTER TRAWL, 1 INCH MESH, BEACH SEINE
LENGTH OF DEMERSAL FISH	WATER	STANDARD LENGTH	MILLIMETERS	120 OBS	MONTHLY	SURFACE	SUBSAMPLE FROM EACH TRAWL
SPECIES DETERMINATION OF BENTHIC ANIMALS	BOTTOM	KEY	NUMBER OF SPECIES PER SAMPLE, NUMBER OF INDIVIDUALS PER SPECIES	120 OBS	MONTHLY	BOTTOM	BAG OREGGE, OTTER TRAWL, PETERSON GRAB
COUNT OF BENTHIC ANIMALS	BOTTOM	VISUAL	NUMBER OF INDIVIDUALS PER STATION	120 OBS	MONTHLY	BOTTOM	
CADMIUM IN BIO MATERIAL	WATER	ATOMIC ABSORPTION SPECTROMETRY	PARTS PER MILLION	4 OBS			VARIETY OF SPECIES OF FISH, 4 SAMPLES PER YEAR
ZINC IN BIO MATERIAL	WATER	ATOMIC ABSORPTION SPECTROMETRY	PARTS PER MILLION	4 OBS			VARIETY OF SPECIES OF FISH, 4 SAMPLES PER YEAR
LEAD IN BIO MATERIAL	WATER	ATOMIC ABSORPTION SPECTROMETRY	PARTS PER MILLION	4 OBS			VARIETY OF SPECIES OF FISH, 4 SAMPLES PER YEAR
MERCURY IN BIO MATERIAL	WATER	ATOMIC ABSORPTION SPECTROMETRY	PARTS PER MILLION	4 OBS			VARIETY OF SPECIES OF FISH, 4 SAMPLES PER YEAR

DATA COLLECTED: JUNE 1972 TO PRESENT RECEIVED: AUGUST 08, 1973

PROJECTS:

GENERAL GEOGRAPHIC AREA:

U.S., COASTAL, NORTH ATLANTIC, LOWER CHESAPEAKE BAY, VIRGINIA, LYNNHAVEN BAY, ELIZABETH RIVER

ABSTRACT:

SURVEY OF HYDROGRAPHIC AND BIOLOGICAL PARAMETERS OF LOWER CHESAPEAKE BAY, LYNNHAVEN BAY AND ELIZABETH RIVER, VA. DATA COLLECTED IN CONJUNCTION WITH CONTRACT WORK FOR CONTRACTORS AND LAND DEVELOPERS

DATA AVAILABILITY:

ON APPROVAL FROM CONTRACTOR

PLATFORM TYPES:

ARCHIVE MEDIA:

DATA SHEETS
200 STATIONS

FUNDING:

INVENTORY:

PUBLICATIONS:

CONTACT:

PAUL KIRK 804-489-8000
OLD DOMINION UNIVERSITY
INSTITUTE OF OCEANOGRAPHY
NORFOLK VIRGINIA USA 23508

GRID LOCATOR (LAT):

730776 730775 730766

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
POSITION	EARTH	FIXED POINT	MAP LOCATION	200	STATIONS		
TIME	EARTH	STATION TIME	YMOL	200	STATIONS		
SPECIES	LAND	KEY	NUMBER OF INDIVIDUALS PER SPECIES	200	OBS		MARSH PLANTS
DETERMINATION OF BENTHIC PLANTS	BOTTOM	KEY	NUMBER OF INDIVIDUALS PER SPECIES	200	OBS		
SPECIES DETERMINATION OF BENTHIC ANIMALS	LAND	VISUAL	NUMBER PER ACRE	200	OBS		
COUNT OF BENTHIC PLANTS	BOTTOM	VISUAL	NUMBER PER ACRE	200	OBS		
COUNT OF BENTHIC							

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
ANIMALS							
BIOMASS OF BENTHIC PLANTS	LAND	DRY WEIGHT	POUNDS PER ACRE	200	OBS		
BIOMASS OF BENTHIC ANIMALS	BOTTOM	DRY WEIGHT	POUNDS PER ACRE	200	OBS		
SALINITY	WATER	HYDROMETER	PARTS PER THOUSAND	14	OBS	SURFACE AND BOTTOM	LYNNHAVEN AREA
TEMPERATURE	WATER	NON-REVERSING THERMOMETER	DEG C	14	OBS	SURFACE AND BOTTOM	LYNNHAVEN AREA
DISSOLVED OXYGEN GAS	WATER	TITRATION	MILLIGRAMS PER LITER	14	OBS	SURFACE AND BOTTOM	LYNNHAVEN AREA
PH	WATER	SPECIFIC ION ELECTRODE	PH UNITS	14	OBS	SURFACE AND BOTTOM	LYNNHAVEN AREA
COUNT OF MICROBIOTA	WATER	VISUAL	CULTURE GROWTH (MPN)	14	ORS	SURFACE AND BOTTOM	COLIFORM, LYNNHAVEN AREA
ORTHOPHOSPHATE	WATER	SPECTROPHOTOMETRY	MILLIGRAMS PER LITER	14	OBS	SURFACE AND BOTTOM	LYNNHAVEN AREA
NITRATE	WATER	SPECTROPHOTOMETRY	MILLIGRAMS PER LITER	14	OBS	SURFACE AND BOTTOM	LYNNHAVEN AREA
SECCHI DISC DEPTH	WATER	AVERAGE DEPTH	FEET	14	OBS	SURFACE AND BOTTOM	LYNNHAVEN AREA
SIZE ANALYSIS	SEDIMENT	SIEVE	PERCENT COMPOSITION	7	OBS	BOTTOM	LYNNHAVEN AREA

INVENTORY OF CHLORINATED HYDROCARBONS IN THE CHESTER RIVER
DATA COLLECTED: NOVEMBER 1971 TO JANUARY 1973

RECEIVED: SEPTEMBER 17, 1973

PROJECTS:
CHESTER RIVER STUDY

GENERAL GEOGRAPHIC AREA:
U.S., COASTAL, NORTH ATLANTIC, CHESAPEAKE BAY, MARYLAND, CHESTER RIVER

ABSTRACT:
THIS PORTION OF THE CHESTER RIVER, (MARYLAND) STUDY WAS CONCERNED WITH THE PRESENCE OF CHLORINATED HYDROCARBONS IN THE BIOTA AND SEDIMENT IN THE RIVER. RESEARCH EFFORTS WERE DIRECTED TO DETERMINE THE EXISTING LEVELS OF CHLORINATED HYDROCARBONS. THEIR SOURCES, SINKS AND FLUCTUATIONS. CHLORINATED HYDROCARBONS FOUND IN SEDIMENT WERE CORRELATED TO MEAN GRAIN SIZE DIAMETER AND WITH RESPECT TO DISTRIBUTION ALONG THE MAIN RIVER COURSE.

DATA AVAILABILITY:

PLATFORM TYPES:
SHIP

ARCHIVE MEDIA:
DATA SHEETS
150 SEDIMENT SAMPLES; 100 SAMPLES OF THE BIOTA

FUNDING:
WESTINGHOUSE, MARYLAND DEPT OF NATURAL RESOURCES

INVENTORY:

PUBLICATIONS:
CHESTER RIVER STUDY, WESTINGHOUSE, VOL 1, 2, 3

CONTACT:
THOMAS MUNSON 301-765-1000
WESTINGHOUSE ELECTRIC CORPORATION
OCEAN RESEARCH LABORATORY, BOX 1771
ANNAPOLIS MARYLAND USA 21404

GRID LOCATOR (LAT):
730796

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
POSITION	EARTH	FIXED POINT	MAP LOCATION	25	QUARTERLY		
TIME	EARTH	STATION TIME	YMDL	150	25 STATIONS		
					ON A QUARTERLY		
					Y BASIS		
LINDANE	SEDIMENT	GAS CHROMATOGRAPH	PARTS PER BILLION	150	25 STATIONS	BOTTOM	CHLORINATED HYDROCARBONS
		Y			ON A QUARTERLY		
ALDRIN	SEDIMENT	GAS CHROMATOGRAPH	PARTS PER BILLION	150	25 STATIONS	BOTTOM	
		Y			ON A QUARTERLY		

INVENTORY OF CHLORINATED HYDROCARBONS IN THE CHESTER RIVER (CONT.)

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
DIELDRIN	SEDIMENT	GAS CHROMATOGRAPH Y	PARTS PER BILLION	150	25 STATIONS ON A QUARTERL Y BASIS	BOTTOM	
ENDRIN	SEDIMENT	GAS CHROMATOGRAPH Y	PARTS PER BILLION	150	25 STATIONS ON A QUARTERL Y BASIS	BOTTOM	
DDT	SEDIMENT	GAS CHROMATOGRAPH Y	PARTS PER BILLION	150	25 STATIONS ON A QUARTERL Y BASIS	BOTTOM	
DDD	SEDIMENT	GAS CHROMATOGRAPH Y	PARTS PER BILLION	150	25 STATIONS ON A QUARTERL Y BASIS	BOTTOM	
DDE	SEDIMENT	GAS CHROMATOGRAPH Y	PARTS PER BILLION	150	25 STATIONS ON A QUARTERL Y BASIS	BOTTOM	
TOXAPHENE	SEDIMENT	GAS CHROMATOGRAPH Y	PARTS PER BILLION	150	25 STATIONS ON A QUARTERL Y BASIS	BOTTOM	
CHLORDANE	SEDIMENT	GAS CHROMATOGRAPH Y	PARTS PER BILLION	150	25 STATIONS ON A QUARTERL Y BASIS	BOTTOM	
POLYCHLORINATED BIPHENYLS	SEDIMENT	GAS CHROMATOGRAPH Y	PARTS PER BILLION	150	25 STATIONS ON A QUARTERL Y BASIS	BOTTOM	
LINDANE IN BIO MATERIAL	WATER	GAS CHROMATOGRAPH Y	PARTS PER BILLION	100	25 STATIONS ON A QUARTERL Y BASIS	BOTTOM	MYA ARENARIA, SOFT SHELL CLAM: CRASSOSTR EA VIRGINICA, OYSTER; CALLINECTES SAPIDUS, BLUE CRAB: MORONE AMERICANA, WHITE PERCH; MORONE PERCAFLAVIS, YELLOW PERCH MYA ARENARIA, SOFT SHELL CLAM: CRASSOSTR EA VIRGINICA, OYSTER; CALLINECTES SAPIDUS, BLUE CRAB: MORONE AMERICANA, WHITE PERCH; MORONE PERCAFLAVIS, YELLOW PERCH MYA ARENARIA, SOFT SHELL CLAM: CRASSOSTR
ALDRIN IN BIO MATERIAL	WATER	GAS CHROMATOGRAPH Y	PARTS PER BILLION	100		OBS	
DIELDRIN IN BIO MATERIAL	WATER	GAS CHROMATOGRAPH Y	PARTS PER BILLION	100		OBS	

INVENTORY OF CHLORINATED HYDROCARBONS IN THE CHESTER RIVER (CONT.)

033

001700

POPULATION DYNAMICS OF PRIVATE AND PUBLIC OYSTER BEDS IN VIRGINIA. 1947 TO 1967
DATA COLLECTED: JANUARY 1947 TO DECEMBER 1967
RECEIVED: MARCH 28, 1974
PAGE 01

PROJECTS:

GENERAL GEOGRAPHIC AREA:

NORTH ATLANTIC, U.S., COASTAL, LOWER CHESAPEAKE BAY, TRIBUTARIES AND TIDAL CREEKS

ABSTRACT:

ANNUAL POPULATION ASSESSMENTS OF OYSTERS IN THE LOWER CHESAPEAKE BAY AND NUMEROUS TRIBUTARIES HAVE BEEN MADE SINCE 1947. DATA ALSO INCLUDES COUNTS OF OYSTER SPATFALL AT BOTH SEASONAL INTERVALS AND WITHIN SEASON INTERVALS FOR NUMEROUS STATIONS WITHIN THESE AREAS. OCCURRENCE, ABUNDANCE AND DISTRIBUTION OF PREDATORS, FOULING ORGANISMS, SCAVENGERS AND OTHER ASSOCIATES OF OYSTER BED COMMUNITIES IS AVAILABLE BUT NOT SUMMARIZED EXCEPT GENERALLY. DATA ON PARASITES SUCH AS PEA CRABS, SACCULINIDS, MUD CRABS (PARASITIZED) IS AVAILABLE BUT NOT EASILY ACCESSIBLE.

DATA AVAILABILITY:

PLATFORM TYPES:

FIXED STATION

ARCHIVE MEDIA:

DATA SHEETS

FIFTEEN YEARLY FILES EACH WITH 200 DATA SHEETS; FIFTEEN YEARLY SUMMARIES EACH APPROXIMATELY FIVE PAGES FOR SPATFALL DATA

FUNDING:

STATE OF VIRGINIA

INVENTORY:

PUBLICATIONS:

NUMEROUS PUBLICATIONS BASED ON THIS WORK OVER THE PAST 20 YEARS

CONTACT:

DR. JAY D. ANDREWS 804 642 2111 X67
VIRGINIA INSTITUTE OF MARINE SCIENCE
GLOUCESTER POINT VIRGINIA USA 23062

GRID LOCATOR (LAT):

730766 730776 730775

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
POSITION	EARTH	FIXED POINT	MAP LOCATION	170 STATIONS	STATIONS		50 OYSTER COUNT STATIONS, 120 SPATFALL COUNT STATIONS
TIME	EARTH	STATION TIME	YMD	6150 OBS	ANNUAL		ANNUAL FALL POPULATION ASSESSMENTS: OYSTERS CLASSED AS MARKET, SMALL,
COUNT OF BENTHIC ANIMALS	BOTTOM	VISUAL	NUMBER OF OYSTERS PER BUSHEL	1050 OBS			

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
COUNT OF ZOOPLANKTON	WATER	VISUAL	NUMBER OF OYSTERS PER BUSHEL	1500	OBS	ONE MONTH TO ONE YEAR	YEARLING, SPAT SEASONAL SETTING OF OYSTER SPAT; DATA FOR THESE YEARS ONLY: 1947-1953, 1958, 1961- 1967; SHELLBAG TECHNIQUE 1 JUNE TO 1 OCTOBER OF EACH YEAR ONLY; SHELLBAGS , SHELLSTRINGS, AND SETTING PLATES USED
COUNT OF PERIPHYTON ON BENTHIC ANIMALS	BOTTOM	VISUAL	COUNT PER SHELL FACE	3600	OBS	WEEKLY	

002007

PESTICIDE DATA

DATA COLLECTED: JANUARY 1, 1974 9/2

RECEIVED: JUNE 18, 1974

PAGE 01

PROJECTS:

GENERAL GEOGRAPHIC AREA:

NORTH ATLANTIC, COASTAL, U.S., CHESAPEAKE BAY, EASTERN SHORE, YORK, RAPPAHANNOCK, JAMES, ELIZABETH RIVERS, LYNNHAVEN BAY

ABSTRACT:

RESULTS OF PESTICIDE ANALYSES PERFORMED BY THE VIRGINIA INSTITUTE OF MARINE SCIENCE AND THE VIRGINIA STATE WATER CONTROL BOARD ON OYSTERS OBTAINED FROM THE LOWER CHESAPEAKE BAY AND TRIBUTARIES ARE ON FILE AT THE BUREAU OF SHELLFISH SANITATION (ANALYSES WERE PERFORMED BY THE VIRGINIA INSTITUTE OF MARINE SCIENCE AND THE VA. STATE WATER CONTROL BOARD)

DATA AVAILABILITY:

GENERALLY AVAILABLE TO ANY CITIZEN OR AGENCY IN THE COMMONWEALTH UPON DECISION OF THE DIRECTOR

PLATFORM TYPES:

FIXED STATION

ARCHIVE MEDIA:

DATA SHEETS

2 DATA SHEETS

FUNDING:

STATE OF VIRGINIA

INVENTORY:

PUBLICATIONS:

CONTACT:

CLOYDE W. WILEY, DIRECTOR 804 770 7937
BUREAU OF SHELLFISH SANITATION
JAMES MADISON BLDG., 109 GOVERNOR STREET
RICHMOND VIRGINIA USA 23219

GRID LOCATOR (LAT):

730776 730766 730775

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
POSITION	EARTH	FIXED POINT	MAP LOCATION	10 STATIONS	MONTHLY UNTIL 1970, QUARTERLY FROM 1971=		1 OBS PER STATION
TIME	EARTH	STATION TIME	YMD	680 OBS	MONTHLY UNTIL 1970, QUARTERLY FROM 1971=		
DOT IN BIO MATERIAL	WATER	GAS CHROMATOGRAPH	PPM	680 OBS	MONTHLY UNTIL 1970, QUARTERLY FROM 1971=		WET WEIGHT IN OYSTER FLESH
ODD IN BIO	WATER	GAS CHROMATOGRAPH	PPM	680 OBS	MONTHLY UNTIL 1970, QUARTERLY FROM 1971=		WET WEIGHT IN

PARAMETER IDENTIFICATION SECTION:

NAME	SPECIE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
MATERIAL		Y			1970, QUARTERLY FROM 1971- 1972		OYSTER FLESH
DDE IN BIO MATERIAL	WATER	GAS CHROMATOGRAPH Y	PPM	680 OBS	MONTHLY UNTIL 1970, QUARTERLY FROM 1971- 1972		WET WEIGHT IN OYSTER FLESH
DIELDRIN IN BIO MATERIAL	WATER	GAS CHROMATOGRAPH Y	PPM	680 OBS	MONTHLY UNTIL 1970, QUARTERLY FROM 1971- 1972		WET WEIGHT IN OYSTER FLESH

002008

HEAVY METALS MONITORING PROGRAM
DATA COLLECTED: JUNE 1974 TO PRESENT

PAGE 01
RECEIVED: JUNE 18, 1974

PROJECTS:

GENERAL GEOGRAPHIC AREA:

NORTH ATLANTIC COASTAL, U.S., CHESAPEAKE BAY, JAMES, YORK, POTOMAC, ELIZABETH RIVERS, WILLOBY BAY

ABSTRACT:

SAMPLES OF OYSTERS ARE OBTAINED FROM FORTY STATIONS IN THE LOWER CHESAPEAKE BAY AND ITS TRIBUTARIES AND ANALYSED FOR CU, CD, ZN, HG AT SIX MONTH INTERVALS. THE PROGRAM ATTEMPTS TO MONITOR SHELLFISH CONTAMINATION IN VIRGINIA WATERS BY HEAVY METALS

DATA AVAILABILITY:

GENERALLY AVAILABLE TO ANY CITIZEN OR AGENCY IN THE COMMONWEALTH UPON DECISION OF THE DIRECTOR

PLATFORM TYPES:

FIXED STATION

ARCHIVE MEDIA:

DATA SHEETS

100 DATA SHEETS PER YEAR

FUNDING:

VA DEPARTMENT OF HEALTH

INVENTORY:

PUBLICATIONS:

CONTACT:

CLOYDE W. WILEY, DIRECTOR 804 770 7937
BUREAU OF SHELLFISH SANITATION
JAMES MADISON BLDG., 109 GOVERNOR STREET
RICHMOND VIRGINIA USA 23219

GRID LOCATOR (LAT):

730766 730776 730786

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
POSITION	EARTH	FIXED POINT	MAP LOCATION	40 STATIONS	TWICE A YEAR		
TIME	EARTH	STATION TIME	YMD	160 OBS	TWICE A YEAR		
COPPER IN BIO MATERIAL	WATER	ATOMIC ABSORPTION SPECTROMETRY	PPM	160 OBS			3 OBS PER STATION FROM A MIXTURE OF 10 OYSTERS; WET WEIGHT IN OYSTER TISSUE
CADMIUM IN BIO MATERIAL	WATER	ATOMIC ABSORPTION SPECTROMETRY	PPM	160 OBS			3 OBS PER STATION FROM A MIXTURE OF 10 OYSTERS; WET WEIGHT IN

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
LEAD IN BIO MATERIAL	WATER	ATOMIC ABSORPTION SPECTROMETRY	PPM	160	OBS	TWICE A YEAR	OYSTER TISSUE 3 OBS PER STATION FROM A MIXTURE OF 10 OYSTERS; WET WEIGHT IN OYSTER TISSUE SAMPLES FROM ONLY 9 STATIONS
MERCURY IN BIO MATERIAL	WATER	ATOMIC ABSORPTION SPECTROMETRY	PPM	36	OBS	TWICE A YEAR	

CC:309

BACTERIOLOGICAL AND HYDROGRAPHIC SEAWATER DATA
DATA COLLECTED: JANUARY 1925 TO PRESENT

RECEIVED: JUNE 18, 1974
PAGE 01

PROJECTS:

GENERAL GEOGRAPHIC AREA:
NORTH ATLANTIC, COASTAL, U.S., CHESAPEAKE BAY, EASTERN SHORE, VIRGINIA TIDAL TRIBUTARIES

ABSTRACT:

BIOLOGICAL DATA INCLUDING VARIOUS BACTERIOLOGICAL ANALYSES AND HYDROGRAPHIC DATA ARE OBTAINED FROM SELECTED STATIONS ALONG THE TIDAL COASTLINE OF VIRGINIA AT MONTHLY INTERVALS. HISTORIC DATA GOES BACK TO 1925 FOR SOME STATIONS AT INTERVALS RANGING FROM MONTHS TO YEARS. THE INFORMATION IS OBTAINED AS PART OF THE SANITARY SURVEY WHICH MONITORS THE FITNESS OF VIRGINIA TIDAL AREAS FOR OBTAINING SHELLFISH FOR DIRECT MARKETING

DATA AVAILABILITY:

GENERALLY AVAILABLE TO ANY CITIZEN OR AGENCY IN THE COMMONWEALTH UPON DECISION OF THE DIRECTOR

PLATFORM TYPES:
FIXED STATION

ARCHIVE MEDIA:
DATA SHEETS
6 FILE CABINET DRAWERS OF DATA SHEETS

FUNDING:
VIRGINIA DEPARTMENT OF HEALTH

INVENTORY:

PUBLICATIONS:

CONTACT:
CLOYDE W. WILEY, DIRECTOR 804 770 7937
BUREAU OF SHELLFISH SANITATION
JAMES MADISON BLDG., 109 GOVERNOR STREET
RICHMOND VIRGINIA USA 23219

GRID LOCATOR (LAT):
730776 730766 730775

PARAMETER IDENTIFICATION SECTION:

NAME	SHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
POSITION	EARTH	FIXED POINT	MAP LOCATION	4000 STATIONS	STATIONS	THE SHORELINE OF VIRGINIA	HAS BEEN DIVIDED INTO 107 AREAS AND EACH OF THESE AREAS CONTAIN A NUMBER OF STATIONS MONTHLY SINCE 1972; QUARTERLY
TIME	EARTH	STATION TIME	YMD	75000	OBS		

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
COUNT OF MICROBIOLOGICAL	WATER	VISUAL	MPN	75000	OBS		SINCE 1969; VARIOUS INTERVALS FROM MONTHS TO YEARS DEPENDING ON AREA AND STATION BEFORE 1969 1 OBS PER STATION FOR TOTAL COLIFORM DATING BACK TO 1925; FECAL COLIFORM DATING BACK TO APPROXIMATELY 1964; FECAL STREPTOCOCCI * MEASURED SINCE 1972 IN ONLY THOSE AREAS WHICH SHOWED HIGH COLIFORM COUNTS
TEMPERATURE	WATER	VARIOUS	DEG F	20000	OBS	1 TO 5 IN EACH AREA	MONTHLY SINCE 1972; QUARTERLY SINCE 1969; VARIOUS INTERVALS FROM MONTHS TO YEARS DEPENDING ON AREA AND STATION BEFORE 1969
SALINITY	WATER	CONDUCTIVITY	PPT	20000	OBS	1 TO 5 IN EACH AREA	MONTHLY SINCE 1972; QUARTERLY SINCE 1969; VARIOUS INTERVALS FROM MONTHS TO YEARS DEPENDING ON AREA AND STATION BEFORE 1969
WEATHER	AIR	VISUAL	TYPE	10000	OBS	1 TO 5 IN EACH AREA	ALSO INCLUDED ARE WIND SPEED AND DIRECTION ESTIMATES AND TIDAL DIRECTION AND STAGE ESTIMATES

002010

SHORELINE SURVEY DATA
DATA COLLECTED: JANUARY 1940 TO PRESENT

RECEIVED: JUNE 18, 1974
PAGE 01

PROJECTS:

GENERAL GEOGRAPHIC AREA:
NORTH ATLANTIC, COASTAL, U.S., CHESAPEAKE BAY, EASTERN SHORE, VIRGINIA TIDAL TRIBUTARIES

ABSTRACT:

THE TIDAL SHORELINE OF VIRGINIA HAS BEEN DIVIDED INTO 107 AREAS AND EVERY PROPERTY WITHIN THE WATERSHED OF EACH AREA IS VISITED BY INSPECTORS TO DETERMINE SOURCES OF WASTE WHICH MIGHT CONTRIBUTE TO SURFACE WATER POLLUTION. EACH AREA WILL BE SURVEYED AT SIX YEAR INTERVALS. HISTORICALLY THE SURVEY WORK WAS LESS FREQUENT, AND THE ENTIRE WATERSHED WAS NOT SURVEYED

DATA AVAILABILITY:

GENERALLY AVAILABLE TO ANY CITIZEN OR AGENCY IN THE COMMONWEALTH UPON DECISION OF THE DIRECTOR

PLATFORM TYPES:

FIXED STATION

ARCHIVE MEDIA:

DATA SHEETS
6 FILE CABINET DRAWERS OF DATA SHEETS

FUNDING:

VIRGINIA DEPARTMENT OF HEALTH

INVENTORY:

PUBLICATIONS:

CONTACT:

CLOYDE W. WILEY, DIRECTOR 804 770 7937
BUREAU OF SHELLFISH SANITATION
JAMES MADISON BLDG., 109 GOVERNOR STREET
RICHMOND VIRGINIA USA 23219

GRID LOCATOR (LAT):

730776 730766 730775

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
POSITION	EARTH	FIXED POINT	MAP LOCATION	107 STATIONS			THE TIDAL SHORELINE OF VIRGINIA HAS BEEN DIVIDED INTO 107 SECTIONS WITH EACH SECTION BEING A STATION HISTORICALLY, EACH SECTION OF SHORELINE
TIME	EARTH	STATION TIME	YMD	300			OBS

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
LAND USE	LAND	VISUAL	POLLUTION SOURCE CATEGORY	100000	OBS		WAS SURVEYED INFREQUENTLY, FROM 1973 ON EACH AREA WILL BE SURVEYED AT SIX YEAR INTERVALS EACH PROPERTY WITHIN THE WATERSHED OF EACH SECTION OF SHORELINE IS VISITED BY INSPECTORS AND EACH SOURCE OF WASTE WHICH MIGHT CONTRIBU E TO SURFACE WATER POLLUTION IS NOTED AND EVALUATED

002011

PESTICIDE MONITORING PROGRAM
DATA COLLECTED: SEPTEMBER 1974 TO PRESENT

PAGE 01
RECEIVED: JUNE 18, 1974

PROJECTS:

GENERAL GEOGRAPHIC AREA:

NORTH ATLANTIC, COASTAL, U.S., CHESAPEAKE BAY, EASTERN SHORE, VA TIDAL RIVERS AND BAYS

ABSTRACT:

OYSTERS OBTAINED AT SIX MONTH INTERVALS FROM STATIONS LOCATED IN TIDAL TRIBUTARIES AND BAYS OF VIRGINIA ARE ANALYSED FOR DDT, DDD, DDE, DIELDRIN, PCB. THE DATA IS USED TO MONITOR SHELLFISH CONTAMINATION BY THE CHEMICALS.

DATA AVAILABILITY:

GENERALLY AVAILABLE TO ANY CITIZEN OR AGENCY IN THE COMMONWEALTH UPON DECISION OF THE DIRECTOR

PLATFORM TYPES:

FIXED STATION

ARCHIVE MEDIA:

DATA SHEETS

20 DATA SHEETS PER YEAR

FUNDING:

STATE OF VIRGINIA

INVENTORY:

PUBLICATIONS:

CONTACT:

CLOYDE W. WILEY, DIRECTOR 804 770 7937
BUREAU OF SHELLFISH SANITATION
JAMES MADISON BLDG., 109 GOVERNOR STREET
RICHMOND VIRGINIA USA 23219

GRID LOCATOR (LAT):

730776 730766 730775

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
POSITION	EARTH	FIXED POINT	MAP LOCATION	18	STATIONS		
TIME	EARTH	STATION TIME	YMD	36	OBS		
DOT IN BIO MATERIAL	WATER	GAS CHROMATOGRAPH	PPM	36	OBS		
		Y					
					TWO SAMPLINGS PER YEAR		
					TWO SAMPLINGS PER YEAR		
							14 STATIONS EACH SAMPLED BY ONE
							ANALYSIS OF A MIXTURE OF 30 OYSTERS FROM EACH STATION; 4 STATIONS EACH SAMPLED BY ONE

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
MERCURY IN BIO MATERIAL	BOTTOM	ATOMIC ABSORPTION SPECTROMETRY	UG PER G	100	OBS		IN GUT AND FLESH TISSUE CONCENTRATIONS DETERMINED IN FLESH OF BLUE CRABS, SHRIMP, OYSTERS, MUD CRABS, MUSSELS TAKEN AT EACH STATION
COPPER IN BIO MATERIAL	WATER	ATOMIC ABSORPTION SPECTROMETRY	UG PER G	40	OBS		CONCENTRATIONS IN FLESH OF VARIOUS SPECIES OF FINFISH TAKEN AT EACH STATION
COPPER IN BIO MATERIAL	BOTTOM	ATOMIC ABSORPTION SPECTROMETRY	UG PER G	20	OBS		CONCENTRATIONS IN FLESH OF SHRIMP, OYSTERS, MUSSELS
CHROMIUM IN BIO MATERIAL	WATER	ATOMIC ABSORPTION SPECTROMETRY	UG PER G	40	OBS		CONCENTRATIONS IN FLESH OF VARIOUS SPECIES OF FINFISH TAKEN AT EACH STATION
CHROMIUM IN BIO MATERIAL	BOTTOM	ATOMIC ABSORPTION SPECTROMETRY	UG PER G	20	OBS		CONCENTRATIONS IN FLESH OF SHRIMP, OYSTERS, MUSSELS
LEAD IN BIO MATERIAL	WATER	ATOMIC ABSORPTION SPECTROMETRY	UG PER G	40	OBS		CONCENTRATIONS IN FLESH OF VARIOUS SPECIES OF FINFISH TAKEN AT EACH STATION
LEAD IN BIO MATERIAL	BOTTOM	ATOMIC ABSORPTION SPECTROMETRY	UG PER G	20	OBS		CONCENTRATIONS IN FLESH OF SHRIMP, OYSTERS, MUSSELS
ZINC IN BIO MATERIAL	WATER	ATOMIC ABSORPTION SPECTROMETRY	UG PER G	40	OBS		CONCENTRATIONS IN FLESH OF VARIOUS SPECIES OF FINFISH TAKEN AT EACH STATION

PARAMETER IDENTIFICATION SECTION:

NAME	SAMPLE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
ZINC IN BIO MATERIAL	BOTTOM	ATOMIC ABSORPTION SPECTROMETRY	UG PER G	40	OBS		CONCENTRATIONS IN FLESH OF SHRIMP, OYSTERS, MUSSELS
ALUMINUM IN BIO MATERIAL	WATER	ATOMIC ABSORPTION SPECTROMETRY	UG PER G	40	OBS		CONCENTRATIONS IN FLESH OF VARIOUS SPECIES OF FINFISH TAKEN AT EACH STATION
ALUMINUM IN BIO MATERIAL	BOTTOM	ATOMIC ABSORPTION SPECTROMETRY	UG PER G	40	OBS		CONCENTRATIONS IN FLESH OF SHRIMP, OYSTERS, MUSSELS

002369

TRACE METAL ENVIRONMENTS NEAR SHELL BANKS IN DELAWARE BAY
DATA COLLECTED: AUGUST 1971 TO AUGUST 1972PAGE 01
RECEIVED: AUGUST 09, 1974

PROJECTS:

GENERAL GEOGRAPHIC AREA:

NORTH ATLANTIC, COASTAL, U.S., DELAWARE BAY

ABSTRACT:

TRACE METAL CONDITIONS OF THE BOTTOM SEDIMENTS IN THE DELAWARE BAY NEAR EXISTING OYSTER BANKS WERE INVESTIGATED IN ORDER TO LOCATE AREAS SUITABLE FOR THE LOCATION OF CULTURED OYSTER BANKS.
(UNPUBLISHED M.S. THESIS OF FREDERICK BOPP III, JUNE 1973)

DATA AVAILABILITY:

INTERLIBRARY LOAN

PLATFORM TYPES:

FIXED STATION

ARCHIVE MEDIA:

REPORTS

ONE 135 PAGE THESIS

FUNDING:

UNIVERSITY OF DELAWARE

INVENTORY:

PUBLICATIONS:

CONTACT:

LIBRARIAN 302 738 2455
MORRIS LIBRARY
UNIVERSITY OF DELAWARE
NEWARK DELAWARE USA 19711

GRID LOCATOR (LAT):

730795 730794 730785 730784

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
POSITION	EARTH	FIXED POINT	MAP	119	STATIONS		
TIME	EARTH	STATION TIME	YMD	119	OBS		
SIZE ANALYSIS	SEDIMENT	SIEVE	PERCENT	119	OBS		SAND, SILT, OR CLAY
IRON	SEDIMENT	ATOMIC ABSORPTION SPECTROMETRY	PPM	119	OBS		GREATER THAN 63U FRACTION OF SEDIMENT ONLY
MAGNESIUM	SEDIMENT	ATOMIC ABSORPTION SPECTROMETRY	PPM	119	OBS		GREATER THAN 63U FRACTION OF SEDIMENT ONLY

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
COPPER	SEDIMENT	ATOMIC ABSORPTION SPECTROMETRY	PPM	119	OBS		GREATER THAN 63U FRACTION OF SEDIMENT ONLY
CHROMIUM	SEDIMENT	ATOMIC ABSORPTION SPECTROMETRY	PPM	119	OBS		GREATER THAN 63U FRACTION OF SEDIMENT ONLY
LEAD	SEDIMENT	ATOMIC ABSORPTION SPECTROMETRY	PPM	119	OBS		GREATER THAN 63U FRACTION OF SEDIMENT ONLY
ZINC	SEDIMENT	ATOMIC ABSORPTION SPECTROMETRY	PPM	119	OBS		GREATER THAN 63U FRACTION OF SEDIMENT ONLY

002430

GOLD AND MERCURY IN OYSTERS BY NEUTRON ACTIVATION
DATA COLLECTED: APRIL 1970 TO APRIL 1972

RECEIVED: SEPTEMBER 04, 1972

PAGE 01

PROJECTS:

GENERAL GEOGRAPHIC AREA:
NORTH ATLANTIC, U.S., CHESAPEAKE BAY, PATAPSCO RIVER, COASTAL

ABSTRACT:

ANALYSIS OF OYSTER MEATS FROM PATAPSCO RIVER, MARYLAND FOR GOLD AND MERCURY BY NEUTRON ACTIVATION ANALYSIS. SINGLE STATION
SOURCE OF OYSTERS. PROGRAM INTENT WAS TO PROVIDE BASELINE DATA AND EVALUATE ANALYTIC TECHNIQUE. DATA FILE INCLUDES ENERGY
SPECTRA FOR EACH SAMPLE.
(MS THESIS, R. T. MOHR, 1971)

DATA AVAILABILITY:

INTERLIBRARY LOAN

PLATFORM TYPES:

SHIP

ARCHIVE MEDIA:

REPORTS
97 PAGES

FUNDING:

UNIVERSITY OF MARYLAND

INVENTORY:

PUBLICATIONS:

CONTACT:
LIBRARIAN 301 454 3011
MCKELDIN LIBRARY
UNIVERSITY OF MARYLAND
COLLEGE PARK MARYLAND USA 20742

GRID LOCATOR (LAT):
730796

PARAMETER IDENTIFICATION SECTION:

NAME	WHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
POSITION	EARTH	FIXED POINT	MAP	1	STATIONS		
TIME	EARTH	STATION TIME	YMD	1	STATIONS		
GOLD IN BIO	WATER	GAMMA RAY	PPM DRY WEIGHT	14	OBS		OYSTER MEAT
MATERIAL		SPECTROMETRY					
MERCURY IN BIO	WATER	GAMMA RAY	PPB DRY WEIGHT	14	OBS		OYSTER MEAT
MATERIAL		SPECTROMETRY					

002431

DETERMINATION OF CADMIUM IN OYSTERS
DATA COLLECTED: JUNE 1968 TO OCTOBER 1970PAGE
RECEIVED: SEPTEMBER 04, 197

PROJECTS:

GENERAL GEOGRAPHIC AREA:
NORTH ATLANTIC, U.S., CHESAPEAKE BAY, COASTAL

ABSTRACT:

SAMPLES OF OYSTERS TAKEN FROM 4 SITES IN MARYLAND WATERS ANALYZED FOR CADMIUM. INTENT OF STUDY WAS TO PROVIDE BASELINE DATA AND EVALUATE TECHNIQUE FOR ANALYSIS.
(MS THESIS BY P.H. GRAHAM, 1971, DEPARTMENT OF CIVIL ENGINEERING)

DATA AVAILABILITY:

INTERLIBRARY LOAN

PLATFORM TYPES:

SHIP

ARCHIVE MEDIA:

REPORTS
45 PAGES

FUNDING:

UNIVERSITY OF MARYLAND

INVENTORY:

PUBLICATIONS:

CONTACT:

LIBRARIAN 301 454 3011
MCKELDIN LIBRARY
UNIVERSITY OF MARYLAND
COLLEGE PARK MARYLAND USA 20742

GRID LOCATOR (LAT):

730786

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
POSITION	EARTH	FIXED POINT	MAP	4 STATIONS			
TIME	EARTH	STATION TIME	YMD	4 STATIONS			
CADMIUM IN BIO	BOT:AM	ATOMIC ABSORPTION	PPM WET WEIGHT	16 OBS			OYSTERS
MATERIAL	BOTTOM	SPECTROMETRY	GM	16 OBS			ANALYZED
WEIGHT OF		WET WEIGHT					OYSTERS, MEAT
BENTHIC							ONLY
ANIMALS							

BENTHIC SURVEY FOR SOFT-SHELL CLAM POPULATIONS NEAR CALVERT CLIFFS MARYLAND
DATA COLLECTED: AUGUST 1973 TO AUGUST 1973
RECEIVED: SEPTEMBER 04, 1973

BENTHIC SURVEY FOR SOFT-SHELL CLAM POPULATIONS NEAR CALVERT CLIFFS MARYLAND
DATA COLLECTED: AUGUST 1973 TO AUGUST 1973

NORTH ATLANTIC, COASTAL, U.S.; CHESAPEAKE BAY

OFFSHORES AREAS IN THE CHESAPEAKE BAY NEAR THE SITE OF THE PROPOSED CALVERT CLIFFS NUCLEAR GENERATING STATION WERE SURVEYED BY HYDRAULIC DREDGE TO LOCATE CLAM BEDS WHICH MIGHT POSSIBLY BE AFFECTED BY OPERATIONS OF THE POWER PLANT. RESULTS ARE AVAILABLE IN A 10 PAGE REPORT. DATA FROM THIS STUDY IS COMPARED TO A 1971 STUDY OF THE SAME AREA, WHICH IS ALSO AVAILABLE BUT CONTAINS NO DATA, AND AN INCREASE IN THE NUMBER OF SOFT SHELL CLAMS IS EVIDENT. (CONTRACT WORK DONE FOR THE BALTIMORE GAS AND ELECTRIC COMPANY)

PLATFORM TYPES:
FIXED STATION

FUNDING:
THE BALTIMORE GAS AND ELECTRIC COMPANY

PUBLICATIONS:

GRID LOCATOR (LAT):
730786

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
POSITION	EARTH	FIXED POINT	MAP	18	STATIONS		
TIME	EARTH	STATION TIME	YMD	18	OBS	BOTTOM	
COUNT OF BENTHIC ANIMALS	BOTTOM	VISUAL	NUMBER OF INDIVIDUALS	18	OBS		SOFT SHELL CLAM'S ONLY; OBTAINED WITH 32 FT COMMERCIAL DREDGE WITH 3 FT HEAD; 5 MIN DREDGE, 4 TIMES AT EACH

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
MORPHOMETRIC MEASURE OF BENTHIC ANIMALS	BOTTOM	DIRECT	SIZE RANGE	18	OBS		STATION GREATER THAN 57 MM, LESS THAN 57 MM; SOFT SHELL CLAMS ONLY
DISSOLVED OXYGEN GAS	WATER	TITRATION	PPM	18	OBS	BOTTOM	
SALINITY	WATER	TITRATION	PPT	18	OBS	BOTTOM	
COUNT OF MICROBIOTA	WATER	VISUAL	VARIOUS	18	OBS	BOTTOM	FECAL COLIFORM, NUMBER PER 100 G; TOTAL COLIFORM, NUMBER PER G

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CHESAPEAKE BAY, CALVERT CLIFFS SURVEY REPORTS FOR THE BALTIMORE GAS AND

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ELECTRIC COMPANY
DATA COLLECTED: JUNE 1968 TO PRESENT

RECEIVED: SEPTEMBER 04, 1974

PROJECTS:

GENERAL GEOGRAPHIC AREA:

NORTH ATLANTIC, COASTAL, U.S., CHESAPEAKE BAY

ABSTRACT:

TO DETERMINE THE ECOSYSTEM STRUCTURE AND ITS ECOLOGICAL CHARACTERISTICS, PARTICULARLY DIVERSITY, IN CERTAIN SELECTED, SHALLOW-WATER AREAS IN THE VICINITY OF THE CALVERT CLIFFS NUCLEAR GENERATING STATION A BAY SURVEY IS BEING CARRIED OUT INCLUDING BIOLOGICAL, CHEMICAL, PHYSICAL, AND BACTERIOLOGICAL STUDIES OF THE WATER. THE STUDY IS TO DETERMINE A BASE LINE PICTURE OF CHESAPEAKE BAY CONDITIONS BEFORE PLANT OPERATIONS BEGIN.
(CONTRACT WORK DONE FOR THE BALTIMORE GAS AND ELECTRIC COMPANY)

DATA AVAILABILITY:

REPORTS AVAILABLE ONLY FROM CONTRACT AGENCY

PLATFORM TYPES:

FIXED STATION

ARCHIVE MEDIA:

REPORTS

FIVE 50 PAGE YEARLY REPORTS

FUNDING:

BALTIMORE GAS AND ELECTRIC COMPANY

INVENTORY:

PUBLICATIONS:

CONTACT:

DR. CLYDE E. GOULDEN 215 567 3700
THE ACADEMY OF NATURAL SCIENCES
NINETEENTH AND THE PARKWAY
PHILADELPHIA PENNSYLVANIA USA 19103

GRID LOCATOR (LAT):

730786

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
POSITION	EARTH	FIXED POINT	MAP	STATIONS			
TIME	EARTH	SAMPLING TIME	YMDHMS	40	TWICE PER YEAR		
SPECIES DETERMINATION OF BENTHIC PLANTS	BOTTOM	KEY	NUMBER OF SPECIES PER CLASS	40	TWICE PER YEAR	SHORE ZONE	ALGAE OBTAINED BY VARIOUS TECHNIQUES
SPECIES DETERMINATION	WATER	KEY	SPECIES, CLASS, TYPE	40	TWICE PER YEAR	SHORE ZONE	PROTOZOA OBTAINED BY

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
OF MICROBIOTA							COLLECTING VARIOUS SUBSTRATES THAT WOULD PROVIDE MICROHABITATS; PLANKTON TOWS ALSO USED VARIOUS COLLECTING MECHANISMS USED TO SAMPLE ALL BOTTOM TYPES
SPECIES DETERMINATION OF BENTHIC ANIMALS	BOTTOM	KEY	NUMBER OF SPECIES PER STATION	40	OBS TWICE PER YEAR	SHORE ZONE	50 FT BAG SEINE WITH ONE-HALF INCH MESH USED: DENDROGRA MS OF SPECIES ASSOCIATIONS PRESENTED SAMPLES OBTAINED AT 5 HIGH AND 5 LOW TIDES AT 4 STATIONS OVER A ONE WEEK PERIOD TWICE A YEAR: MEAN STD ERROR OF MEAN FOR HIGH AND LOW TIDE SAMPLINGS PRESENTED SAMPLES OBTAINED AT 5 HIGH AND 5 LOW TIDES AT 4 STATIONS OVER A ONE WEEK PERIOD TWICE A YEAR: MEAN STD ERROR OF MEAN FOR HIGH AND LOW TIDE SAMPLINGS PRESENTED SAMPLES OBTAINED AT 5 HIGH AND 5 LOW TIDES AT 4 STATIONS OVER
SPECIES DETERMINATION OF DEMERSAL FISH	WATER	KEY	NUMBER OF SPECIES PER STATION	40	OBS TWICE PER YEAR	SHORE ZONE	
TOTAL ALKALINITY WATER		TITRATION	PPM	400	OBS DAILY FOR ONE WEEK	SURFACE	
LIGHT ATTENUATION WATER		COLORIMETRY	PPM	400	OBS DAILY FOR ONE WEEK	SURFACE	
CHLORIDE	WATER	TITRATION	PPM	400	OBS DAILY FOR ONE WEEK	SURFACE	

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIG./T/DEPTH	REMARKS
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DISSOLVED OXYGEN GAS	WATER	TITRATION	PPM	400	OBS	DAILY FOR ONE WEEK	SURFACE
							A ONE WEEK PERIOD TWICE A YEAR; MEAN STD ERROR OF MEAN FOR HIGH AND LOW TIDE SAMPLINGS PRESENTED OBTAINED AT 5 HIGH AND 5 LOW TIDES AT 4 STATIONS OVER A ONE WEEK PERIOD TWICE A YEAR; MEAN STD ERROR OF MEAN FOR HIGH AND LOW TIDE SAMPLINGS PRESENTED OBTAINED AT 5 HIGH AND 5 LOW TIDES AT 4 STATIONS OVER A ONE WEEK PERIOD TWICE A YEAR; MEAN STD ERROR OF MEAN FOR HIGH AND LOW TIDE SAMPLINGS PRESENTED

BIOCHEMICAL
OXYGEN DEMAND

WATER	TITRATION	PPM	400	OBS	DAILY FOR ONE WEEK	SURFACE
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A ONE WEEK
PERIOD TWICE A
YEAR; MEAN STD
ERROR OF MEAN
FOR HIGH AND
LOW TIDE
SAMPLINGS
PRESENTED
OBTAINED AT 5
HIGH AND 5 LOW
TIDES AT 4
STATIONS OVER
A ONE WEEK
PERIOD TWICE A
YEAR; MEAN STD
ERROR OF MEAN
FOR HIGH AND
LOW TIDE
SAMPLINGS
PRESENTED
OBTAINED AT 5
HIGH AND 5 LOW
TIDES AT 4
STATIONS OVER
A ONE WEEK
PERIOD TWICE A
YEAR; MEAN STD
ERROR OF MEAN
FOR HIGH AND
LOW TIDE
SAMPLINGS
PRESENTED

SULFATE

WATER	TITRATION	PPM	400	OBS	DAILY FOR ONE WEEK	SURFACE
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A ONE WEEK
PERIOD TWICE A
YEAR; MEAN STD
ERROR OF MEAN
FOR HIGH AND
LOW TIDE
SAMPLINGS
PRESENTED
OBTAINED AT 5
HIGH AND 5 LOW
TIDES AT 4
STATIONS OVER
A ONE WEEK
PERIOD TWICE A
YEAR; MEAN STD
ERROR OF MEAN
FOR HIGH AND
LOW TIDE
SAMPLINGS
PRESENTED
OBTAINED AT 5
HIGH AND 5 LOW
TIDES AT 4
STATIONS OVER
A ONE WEEK
PERIOD TWICE A
YEAR; MEAN STD
ERROR OF MEAN
FOR HIGH AND
LOW TIDE
SAMPLINGS
PRESENTED

SILICATE

WATER	COLORIMETRY	PPM	400	OBS	DAILY FOR ONE WEEK	SURFACE
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A ONE WEEK
PERIOD TWICE A
YEAR; MEAN STD
ERROR OF MEAN
FOR HIGH AND
LOW TIDE
SAMPLINGS
PRESENTED
OBTAINED AT 5
HIGH AND 5 LOW
TIDES AT 4
STATIONS OVER
A ONE WEEK
PERIOD TWICE A
YEAR; MEAN STD
ERROR OF MEAN
FOR HIGH AND
LOW TIDE
SAMPLINGS
PRESENTED
OBTAINED AT 5
HIGH AND 5 LOW
TIDES AT 4
STATIONS OVER
A ONE WEEK
PERIOD TWICE A
YEAR; MEAN STD
ERROR OF MEAN
FOR HIGH AND
LOW TIDE
SAMPLINGS
PRESENTED

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
BICARBONATE ALKALINITY	WATER	CALCULATED	PPM	400	OBS	DAILY FOR ONE SURFACE WEEK	A ONE WEEK PERIOD TWICE A YEAR; MEAN STD ERROR OF MEAN FOR HIGH AND LOW TIDE SAMPLINGS PRESENTED OBTAINED AT 5 HIGH AND 5 LOW TIDES AT 4 STATIONS OVER A ONE WEEK PERIOD TWICE A YEAR; MEAN STD ERROR OF MEAN FOR HIGH AND LOW TIDE SAMPLINGS PRESENTED
CARBONATE ALKALINITY	WATER	CALCULATED	PPM	400	OBS	DAILY FOR ONE SURFACE WEEK	OBTAINED AT 5 HIGH AND 5 LOW TIDES AT 4 STATIONS OVER A ONE WEEK PERIOD TWICE A YEAR; MEAN STD ERROR OF MEAN FOR HIGH AND LOW TIDE SAMPLINGS PRESENTED
PH	WATER	COLORIMETRY	PH UNITS	400	OBS	DAILY FOR ONE SURFACE WEEK	OBTAINED AT 5 HIGH AND 5 LOW TIDES AT 4 STATIONS OVER A ONE WEEK PERIOD TWICE A YEAR; MEAN STD ERROR OF MEAN FOR HIGH AND LOW TIDE SAMPLINGS PRESENTED
ELECTRICAL CONDUCTIVITY	WATER	IN SITU CONDUCTIVITY CELL	MICROMHOS	400	OBS	DAILY FOR ONE SURFACE WEEK	OBTAINED AT 5 HIGH AND 5 LOW TIDES AT 4 STATIONS OVER A ONE WEEK PERIOD TWICE A YEAR; MEAN STD ERROR OF MEAN FOR HIGH AND LOW TIDE SAMPLINGS PRESENTED

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS

SODIUM	WATER	ATOMIC ABSORPTION PPM SPECTROMETRY	400	OBS	DAILY FOR ONE WEEK	SURFACE	A ONE WEEK PERIOD TWICE A YEAR; MEAN STD ERROR OF MEAN FOR HIGH AND LOW TIDE SAMPLINGS PRESENTED SAMPLES OBTAINED AT 5
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SODIUM	WATER	ATOMIC ABSORPTION PPM SPECTROMETRY	400	OBS	DAILY FOR ONE WEEK	SURFACE	PRESENTED
							OBTAINED AT 5 HIGH AND 5 LOW TIDES AT 4 STATIONS OVER A ONE WEEK PERIOD TWICE A YEAR; MEAN STD ERROR OF MEAN FOR HIGH AND LOW TIDE SAMPLINGS PRESENTED
POTASSIUM	WATER	ATOMIC ABSORPTION PPM SPECTROMETRY	400	OBS	DAILY FOR ONE WEEK	SURFACE	OBTAINED AT 5

POTASSIUM	WATER	ATOMIC ABSORPTION PPM SPECTROMETRY	400	OBS	DAILY FOR ONE WEEK	SURFACE	PRESENTED SAMPLES OBTAINED AT 5 HIGH AND 5 LOW TIDES AT 4 STATIONS OVER A ONE WEEK PERIOD TWICE A YEAR; MEAN STD ERROR OF MEAN FOR HIGH AND LOW TIDE SAMPLINGS PRESENTED
IRON	WATER	ATOMIC ABSORPTION PPM SPECTROMETRY	400	OBS	DAILY FOR ONE WEEK	SURFACE	PRESENTED SAMPLES OBTAINED AT 5

IRON	WATER	ATOMIC ABSORPTION PPM SPECTROMETRY	400	QBS	DAILY FOR ONE WEEK	SURFACE	PRESENTED SAMPLES OBTAINED AT 5 HIGH AND 5 LOW TIDES AT 4 STATIONS OVER A ONE WEEK PERIOD TWICE A YEAR; MEAN STD ERROR OF MEAN FOR HIGH AND LOW TIDE SAMPLINGS
							PRESENTED SAMPLES OBTAINED AT 5 HIGH AND 5 LOW TIDES AT 4 STATIONS OVER A ONE WEEK PERIOD TWICE A YEAR; MEAN STD ERROR OF MEAN FOR HIGH AND LOW TIDE SAMPLINGS
MANGANESE	WATER	ATOMIC ABSORPTION PPM SPECTROMETRY	400	QBS	DAILY FOR ONE WEEK	SURFACE	PRESENTED SAMPLES OBTAINED AT 5 HIGH AND 5 LOW TIDES AT 4 STATIONS OVER

[illegible]

TEMPERATURE	WATER	NON-REVERSING THERMOMETER	PPM	400	OBS	DAILY FOR ONE WEEK	SURFACE	A ONE WEEK PERIOD TWICE A YEAR; MEAN STD ERROR OF MEAN FOR HIGH AND LOW TIDE SAMPLINGS PRESENTED OBTAINED AT 5 HIGH AND 5 LOW TIDES AT 4 STATIONS OVER A ONE WEEK PERIOD TWICE A YEAR; MEAN STD ERROR OF MEAN FOR HIGH AND LOW TIDE SAMPLINGS PRESENTED
COUNT OF MICROBIOTA	WATER	VISUAL	COLONIES PER VOLUME SAMPLE	400	OBS	DAILY FOR ONE WEEK	SURFACE	TOTAL BACTERIA, COLIFORM BACTERIA
PHOSPHATE	WATER	COLORIMETRY	PPM	400	OBS	DAILY FOR ONE WEEK	SURFACE	SAMPLES OBTAINED AT 5 HIGH AND 5 LOW TIDES AT 4 STATIONS OVER A ONE WEEK PERIOD TWICE A YEAR; MEAN STD ERROR OF MEAN FOR HIGH AND LOW TIDE SAMPLINGS PRESENTED
NITRATE	WATER	COLORIMETRY	PPM	400	OBS	DAILY FOR ONE WEEK	SURFACE	SAMPLES OBTAINED AT 5 HIGH AND 5 LOW TIDES AT 4 STATIONS OVER A ONE WEEK PERIOD TWICE A YEAR; MEAN STD ERROR OF MEAN FOR HIGH AND LOW TIDE SAMPLINGS PRESENTED
NITRITE	WATER	COLORIMETRY	PPM	400	OBS	DAILY FOR ONE WEEK	SURFACE	SAMPLES OBTAINED AT 5 HIGH AND 5 LOW TIDES AT 4 STATIONS OVER A ONE WEEK PERIOD TWICE A YEAR; MEAN STD ERROR OF MEAN FOR HIGH AND LOW TIDE SAMPLINGS PRESENTED

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CHESAPEAKE BAY, CALVERT CLIFFS SURVEY REPORTS FOR THE BALTIMORE GAS AND (CONT.)
ELECTRIC COMPANY

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PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
AMMONIA	WATER	COLORIMETRY	PPM	400	OBS	DAILY FOR ONE SURFACE WEEK	HIGH AND 5 LOW TIDES AT 4 STATIONS OVER A ONE WEEK PERIOD TWICE A YEAR: MEAN STD ERROR OF MEAN FOR HIGH AND LOW TIDE SAMPLINGS PRESENTED OBTAINED AT 5 HIGH AND 5 LOW TIDES AT 4 STATIONS OVER A ONE WEEK PERIOD TWICE A YEAR: MEAN STD ERROR OF MEAN FOR HIGH AND LOW TIDE SAMPLINGS PRESENTED LOAHL NITROGEN S-WATER M- COLORIMETRY U- PPM T-OBS Q- 400 F-DAILY FOR ONE WEEK H- SURFACE R- SAMPLINGS OBTAINED AT 5 HIGH AND 5 LOW TIDES AT 4 STATIONS OVER A ONE WEEK PERIOD TWICE A YEAR: MEAN STD ERROR OF MEAN FOR HIGH AND LOW TIDE SAMPLINGS PRESENTED OBTAINED AT 5 HIGH AND 5 LOW TIDES AT 4 STATIONS OVER A ONE WEEK PERIOD TWICE A YEAR: MEAN STD ERROR OF MEAN FOR HIGH AND LOW TIDE SAMPLINGS PRESENTED
TOTAL SOLIDS	WATER	DRY WEIGHT	PPM	400	OBS	DAILY FOR ONE SURFACE WEEK	HIGH AND 5 LOW TIDES AT 4 STATIONS OVER A ONE WEEK PERIOD TWICE A YEAR: MEAN STD ERROR OF MEAN FOR HIGH AND LOW TIDE SAMPLINGS PRESENTED OBTAINED AT 5 HIGH AND 5 LOW TIDES AT 4 STATIONS OVER A ONE WEEK PERIOD TWICE A YEAR: MEAN STD ERROR OF MEAN FOR HIGH AND LOW TIDE SAMPLINGS PRESENTED

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
							ERROR OF MEAN FOR HIGH AND LOW TIDE SAMPLINGS PRESENTED

PROJECTS:

GENERAL GEOGRAPHIC AREA:
NORTH ATLANTIC, COASTAL, U.S., NORTH CAROLINA, CALICO CREEK

ABSTRACT:

SURVEY OF THE EFFECTS OF SEWAGE EFFLUENTS AND HEAVY METALS ON AGRICULTURAL AND MARINE ECOSYSTEMS OF NORTH CAROLINA
(INTENSIVE SURVEY OF 15 STATIONS ON CALICO CREEK AND STATIONS IN 20 OTHER COASTAL CITIES.)

DATA AVAILABILITY:

PLATFORM TYPES:
SHIP

ARCHIVE MEDIA:
REPORTS; DATA SHEETS
200 PAGES

FUNDING:

UNIVERSITY OF NORTH CAROLINA; NORTH CAROLINA OFFICE OF WATER RESOURCES RESEARCH PROGRAM

INVENTORY:

PUBLICATIONS:

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GRID LOCATOR (LAT):
730748 730747 730746 730756 730755 730765

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
POSITION	EARTH	FIXED POINT	DM	35	STATIONS		LATITUDE & LONGITUDE
TIME	EARTH	STATION TIME	YMD				
MERCURY	WATER	ATOMIC ABSORPTION SPECTROMETRY	PPB	35	STATIONS	BIANNUAL	OUTFALL PIPE
CADMIUM	WATER	ATOMIC ABSORPTION SPECTROMETRY	PPB	35	STATIONS	BIANNUAL	OUTFALL PIPE
SELENIUM	WATER	ATOMIC ABSORPTION SPECTROMETRY	PPB	35	STATIONS	BIANNUAL	OUTFALL PIPE
LEAD	WATER	ATOMIC ABSORPTION SPECTROMETRY	PPB	35	STATIONS	BIANNUAL	OUTFALL PIPE
COPPER	WATER	ATOMIC ABSORPTION SPECTROMETRY	PPB	35	STATIONS	BIANNUAL	OUTFALL PIPE
ZINC	WATER	ATOMIC ABSORPTION SPECTROMETRY	PPB	35	STATIONS	BIANNUAL	OUTFALL PIPE

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
IRON	WATER	ATOMIC ABSORPTION SPECTROMETRY	PPB	35	STATIONS	BIANNUAL	OUTFALL PIPE
CHROMIUM	WATER	ATOMIC ABSORPTION SPECTROMETRY	PPB	35	STATIONS	BIANNUAL	OUTFALL PIPE
NICKEL	WATER	ATOMIC ABSORPTION SPECTROMETRY	PPB	35	STATIONS	BIANNUAL	OUTFALL PIPE
MERCURY	SEDIMENT	ATOMIC ABSORPTION SPECTROMETRY	PPB	35	STATIONS	BIANNUAL	OUTFALL PIPE
CADMIUM	SEDIMENT	ATOMIC ABSORPTION SPECTROMETRY	PPB	35	STATIONS	BIANNUAL	OUTFALL PIPE
SELENIUM	SEDIMENT	ATOMIC ABSORPTION SPECTROMETRY	PPB	35	STATIONS	BIANNUAL	OUTFALL PIPE
LEAD	SEDIMENT	ATOMIC ABSORPTION SPECTROMETRY	PPB	35	STATIONS	BIANNUAL	OUTFALL PIPE
COPPER	SEDIMENT	ATOMIC ABSORPTION SPECTROMETRY	PPB	35	STATIONS	BIANNUAL	OUTFALL PIPE
ZINC	SEDIMENT	ATOMIC ABSORPTION SPECTROMETRY	PPB	35	STATIONS	BIANNUAL	OUTFALL PIPE
IRON	SEDIMENT	ATOMIC ABSORPTION SPECTROMETRY	PPB	35	STATIONS	BIANNUAL	OUTFALL PIPE
CHROMIUM	SEDIMENT	ATOMIC ABSORPTION SPECTROMETRY	PPB	35	STATIONS	BIANNUAL	OUTFALL PIPE
NICKEL	SEDIMENT	ATOMIC ABSORPTION SPECTROMETRY	PPB	35	STATIONS	BIANNUAL	OUTFALL PIPE
MERCURY IN BIO MATERIAL	WATER	ATOMIC ABSORPTION SPECTROMETRY	PPB	35	STATIONS	BIANNUAL	OUTFALL PIPE
CADMIUM IN BIO MATERIAL	WATER	ATOMIC ABSORPTION SPECTROMETRY	PPB	35	STATIONS	BIANNUAL	OYSTERS, LITTERINA, NASSERIA, SPARTINA, ULVA, UCA, MULLET, PENEAEUS
SELENIUM IN BIO MATERIAL	WATER	ATOMIC ABSORPTION SPECTROMETRY	PPB	35	STATIONS	BIANNUAL	OYSTERS, LITTERINA, NASSERIA, SPARTINA, ULVA, UCA, MULLET, PENEAEUS
LEAD IN BIO MATERIAL	WATER	ATOMIC ABSORPTION SPECTROMETRY	PPB	35	STATIONS	BIANNUAL	OYSTERS, LITTERINA, NASSERIA, SPARTINA, ULVA, UCA, MULLET, PENEAEUS
COPPER IN BIO MATERIAL	WATER	ATOMIC ABSORPTION SPECTROMETRY	PPB	35	STATIONS	BIANNUAL	OYSTERS, LITTERINA, NASSERIA, SPARTINA, ULVA, UCA, MULLET, PENEAEUS

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
MATERIAL		SPECTROMETRY					
ZINC IN BIO MATERIAL	WATER	ATOMIC ABSORPTION SPECTROMETRY	PPB	35	STATIONS BIENNIAL		LITTERINA, NASSERIA, SPARTINA, ULVA, UCA, MULLET, PENEAEUS OYSTERS, LITTERINA, NASSERIA, SPARTINA, ULVA, UCA, MULLET, PENEAEUS
IRON IN BIO MATERIAL	WATER	ATOMIC ABSORPTION SPECTROMETRY	PPB	35	STATIONS BIENNIAL		LITTERINA, NASSERIA, SPARTINA, ULVA, UCA, MULLET, PENEAEUS OYSTERS, LITTERINA, NASSERIA, SPARTINA, ULVA, UCA, MULLET, PENEAEUS
CHROMIUM IN BIO MATERIAL	WATER	ATOMIC ABSORPTION SPECTROMETRY	PPB	35	STATIONS BIENNIAL		LITTERINA, NASSERIA, SPARTINA, ULVA, UCA, MULLET, PENEAEUS OYSTERS, LITTERINA, NASSERIA, SPARTINA, ULVA, UCA, MULLET, PENEAEUS
NICKEL IN BIO MATERIAL	WATER	ATOMIC ABSORPTION SPECTROMETRY	PPB	35	STATIONS BIENNIAL		LITTERINA, NASSERIA, SPARTINA, ULVA, UCA, MULLET, PENEAEUS OYSTERS, LITTERINA, NASSERIA, SPARTINA, ULVA, UCA, MULLET, PENEAEUS
PRECIPITATION AMOUNT	AIR	RAIN GAGE	INCHES	35	STATIONS BIENNIAL		LITTERINA, NASSERIA, SPARTINA, ULVA, UCA, MULLET, PENEAEUS
WATER TRANSPORT PARTICULATE MATTER	WATER	FLOW METER GRAVIMETRY		35	STATIONS BIENNIAL		LITTERINA, NASSERIA, SPARTINA, ULVA, UCA, MULLET, PENEAEUS

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TRACE METAL ENVIRONMENTS NEAR SHELL BANKS IN DELAWARE BAY
DATA COLLECTED: MAY 1971 TO SEPTEMBER 1972PAGE
RECEIVED: OCTOBER 11, 1974

PROJECTS:

GENERAL GEOGRAPHIC AREA:
NORTH AMERICA, U.S., COASTAL, DELAWARE, DELAWARE BAY

ABSTRACT:

THE PRIMARY OBJECTIVE WAS TO TYPIFY THE TRACE METAL GEOCHEMICAL ASPECTS OF THE SEDIMENTARY ENVIRONMENTS WHICH SUPPORT OYSTERS IN DELAWARE BAY. THESE RESULTS PROVIDE BASELINE INFORMATION TO BE USED IN THE OYSTER EARLY-WARNING POLLUTION MONITORING SYSTEM BEING DEVELOPED BY THE STATE OF DELAWARE AND THE UNIVERSITY OF DELAWARE. IN ADDITION, A FURTHER OBJECTIVE IS TO CHARACTERIZE THE TRACE METALS DETERMINED WITH RESPECT TO THEIR GENERALIZED SOURCE, AND THE PRIMARY FACTORS CONTROLLING THEIR DISTRIBUTION. SAMPLES WERE COLLECTED FROM 118 DISCRETE LOCATIONS IN DELAWARE BAY. BASELINES ARE ESTABLISHED FOR IRON, MAGNESIUM, ZINC, CHROMIUM, COPPER, LEAD, CADMIUM, MERCURY, NICKEL, AND STRONTIUM.

DATA AVAILABILITY:

PLATFORM TYPES:
FIXED STATIONARCHIVE MEDIA:
REPORTS

THE DATA OCCURS IN A TECHNICAL REPORT 47 PAGES IN LENGTH.

FUNDING:

NOAA, OFFICE OF SEA GRANT

INVENTORY:

PUBLICATIONS:

BOPP, F., III, 1972, TRACE METAL ENVIRONMENTS NEAR SHELL BANKS IN DELAWARE BAY, COLLEGE OF MARINE STUDIES, UNIVERSITY OF DELAWARE. DEL-SG-9-72, 47 PGS.

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GRID LOCATOR (LAT):
730795

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
POSITION	EARTH	FIXED POINT	DMT	118 STATIONS	.....	.....	.....
TIME	EARTH	STATION TIME	.....	118 STATIONS	.....	.....	.....
IRON	SEDIMENT	ATOMIC ABSORPTION PPM SPECTROMETRY	.....	118 STATIONS	.....	.....	HYDROCHLORIC ACID EXTRACTION FROM SILT AND CLAY FRACTION
MAGNESIUM	SEDIMENT	ATOMIC ABSORPTION PPM SPECTROMETRY		118 STATIONS			HYDROCHLORIC ACID EXTRACTION FROM SILT AND CLAY FRACTION

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RECEIVED: AUGUST 01, 1975

PROJECTS:

GENERAL GEOGRAPHIC AREA:

NORTH ATLANTIC. U.S., DELAWARE BAY, MISPELLION RIVER, COASTAL

ABSTRACT:

OYSTERS, CRASSOSTREA VIRGINICA WERE EXPOSED FOR 3 DAYS TO 203HGCL2 OR CH3 203HGCL ADDED DIRECTLY TO ARTIFICIAL SEA WATER OR ADDED PRECONCENTRATED ON THE MARINE DIATOM, PHAEODACTYLUM TRICORNUTUM. THE CONCENTRATION OF 203HG IN FIVE TISSUES WAS MEASURED FOR 45 DAYS AFTER MERCURY WAS REMOVED FROM THE AMBIENT WATER. TO STUDY THE KINETICS OF MERCURY UPTAKE IN OYSTERS, ADULT CRASSOSTREA VIRGINICA (GMELIN) WERE HELD IN SEA WATER CONTAINING EITHER 10PPB OR 100PPB MERCURY FOR 45 DAYS. MERCURY CONCENTRATIONS IN TISSUES WERE DETERMINED BY ANALYSIS OF INDIVIDUALLY HOMOGENIZED OYSTER MEATS USING WET DIGESTION AND FLAMELESS ABSORPTION SPECTROPHOTOMETRY.

DATA AVAILABILITY:

LIBRARY LOAN

PLATFORM TYPES:

FIXED STATION

ARCHIVE MEDIA:

REPORTS

ONE 147 PAGE THESIS

FUNDING:

INVENTORY:

PUBLICATIONS:

DATA INCLUDED IN UNPUBL. PHD. DISSERTATION, 1974, BY PATRICIA ANN CUNNINGHAM

CONTACT:

LIBRARIAN 302 645 667
UNIVERSITY OF DELAWARE, MARINE STATION LIBRARY
LEWES DELAWARE USA 19958

GRID LOCATOR (LAT):

7307855270

PARAMETER IDENTIFICATION SECTION:

NAME	SPH/PE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
POSITION							
TIME							
MERCURY IN BIO MATERIAL	EARTH EARTH WATER	FIXED POINT STATION TIME ATOMIC ABSORPTION SPECTROMETRY	MIN YR PPB	1 70 350	STATIONS OBS OBS		MERCURY MEASURED IN TISSUES OF OYSTERS AND IN HOMOGENIZED OYSTERS AND FROM THIS DATA

004559

1. GRS ACCRETION, ACCUMULATION, TISSUE DISTRIBUTION, AND ELIMINATION OF MERCURY (CONT.)
IN THE AMERICAN OYSTER, CRASSOSTREA VIRGINICA (CHLIN)

PAGE 6

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
.....							

THE UPTAKE,
DISTRIBUTION
IN TISSUES AND
DEPURATION OF
MERCURY IN
CRASSOSTREA
VIRGINICA WAS
CALCULATED

DATA COLLECTED: OCTOBER 1968 TO AUGUST 1969

RECEIVED: SEPTEMBER 22, 1975

PROJECTS:

GENERAL GEOGRAPHIC AREA:

NORTH ATLANTIC, COASTAL, U.S., DELAWARE, INDIAN RIVER AND REHOBOTH BAYS AND LEIPSIC, SIMONS, MISPELLION AND BROADKILL RIVERS AND BOWER'S BEACH

ABSTRACT:

DATA ON THE LEVELS OF DDD, DDE, DDT AND DIELDRIN IN THE GENERAL TISSUES OF THREE SHELLFISH, CRASSOSTREA VIRGINICA, MODIOLUS DEMISSUS AND MERCENARIA MERCENARIA, COLLECTED FROM OCTOBER 1968 THROUGH AUGUST 1969 FROM VARIOUS COASTAL WATERS ADJACENT TO THE STATE OF DELAWARE ARE PRESENTED IN REPORT FORM.
(ANALYSES CONDUCTED AT BUREAU OF COMMERCIAL FISHERIES BIOLOGICAL LABORATORY-GULF BREEZE, FLORIDA)

DATA AVAILABILITY:

PLATFORM TYPES:
FIXED STATION

ARCHIVE MEDIA:
REPORTS
52 PAGES

FUNDING:

UNITED STATES DEPARTMENT OF INTERIOR FISH AND WILDLIFE SURFACE, BUREAU OF COMMERCIAL FISHERIES

INVENTORY:

PUBLICATIONS:

CONTACT:

LAWRENCE CURTIS 302 738 2794
MARINE LABORATORIES, UNIVERSITY OF DELAWARE
NEWARK DELAWARE USA 19711

GRID LOCATOR (LAT):

7307853097 7307853150 7307854015 7307854075 7307854184 7307855168 7307950233 7307951234 7307951244

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
POSITION	EARTH	FIXED POINT	MAP LOCATION	9	STATIONS	.....	.....
							3 STATIONS FOR
							CRASSOSTREA
							VIRGINIA, 3
							STATIONS FOR
							MERCENARIA, 3
							STATIONS FOR
							MODIOLUS
							DEMISSUS
TIME	EARTH	STATION TIME	YMD	282	OBS		1 OBS PER
							STATION PER
							MONTH

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
DDD IN BIO MATERIAL	WATER	GAS CHROMATOGRAPH Y	PARTS PER MILLION PER SHELLFISH SPECIES TISSUE SAMPLE PER OBS PER STATION	282 OBS	1 OBS PER STATION PER MONTH		
ODE IN BIO MATERIAL	WATER	GAS CHROMATOGRAPH Y	PARTS PER MILLION PER SHELLFISH SPECIES TISSUE SAMPLE PER OBS PER STATION	282 OBS	1 OBS PER STATION PER MONTH		
DOT IN BIO MATERIAL	WATER	GAS CHROMATOGRAPH Y	PARTS PER MILLION PER SHELLFISH SPECIES TISSUE SAMPLE PER OBS PER STATION	282 OBS	1 OBS PER STATION PER MONTH		
DIELDRIN IN BIO MATERIAL	WATER	GAS CHROMATOGRAPH Y	PARTS PER MILLION PER SHELLFISH SPECIES TISSUE SAMPLE PER OBS PER STATION	282 OBS	1 OBS PER STATION PER MONTH		

006026

NEKTON AND BENTHIC SURVEY OF HACKETTS POINT, JOLLY POINT AND MATAPEAKE-MARYLAND

RECEIVED: JUNE 21, 1976

PROJECTS:

GENERAL GEOGRAPHIC AREA:
NORTH ATLANTIC, COASTAL, U.S., CHESAPEAKE BAY

ABSTRACT:

STARTED IN JUNE OF 1972, THIS IS A CONTINUING SURVEY OF THE NEKTON AND BENTHIC ORGANISMS IN THE AREA AROUND THE CHESAPEAKE BAY BRIDGE TUNNEL. PARAMETERS INCLUDE TEMPERATURE, SALINITY SPECIES DETERMINATIONS AND COUNTS, WEATHER AND SECCHI DISC DEPTH.

DATA AVAILABILITY:

PLATFORM TYPES:

SHIP

ARCHIVE MEDIA:
REPORTS
1000 DATA SHEETS

FUNDING:

ANNE ARUNDEL COMMUNITY COLLEGE

INVENTORY:

PUBLICATIONS:

CONTACT:

HUGO G. GEMIGNAMI 301 647 7100
ANNE ARUNDEL COMMUNITY COLLEGE
101 COLLEGE PARKWAY
ARNOLD MARYLAND USA 21012

GRID LOCATOR (LAT):
730776

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
POSITION	EARTH	FIXED POINT	LONGITUDE AND LATITUDE	3 STATIONS			
TIME	EARTH	SAMPLING TIME	YMDHM	3	MONTHLY		
TEMPERATURE	AIR	MERCURY THERMOMETER	DEG C	3	MONTHLY		
TEMPERATURE	WATER	THERMISTOR	DEG C	3	MONTHLY		
SALINITY	WATER	CONDUCTIVITY	PPT	3	MONTHLY		
WEATHER	AIR	VISUAL		3	MONTHLY		
SECCHI DISC	WATER	AVERAGE DEPTH		3	MONTHLY		
DEPTH							
SPECIES DETERMINATION OF BENTHIC ANIMALS	BOTTOM	KEY		3	MONTHLY		

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
COUNT OF BENTHIC ANIMALS	BOTTOM	VISUAL		3	STATIONS MONTHLY		
SPECIES DETERMINATION OF MICROBIOTA	WATER	KEY		3	STATIONS MONTHLY		
COUNT OF MICROBIOTA	WATER	VISUAL		3	STATIONS MONTHLY		

007136

BENTHIC MACROINVERTEBRATE COMMUNITIES AS INDICATORS OF POLLUTION IN THE
ELIZABETH RIVER, HAMPTON, VIRGINIA
DATA COLLECTED: JANUARY 1969 TO AUGUST 1969

PAGE 11

RECEIVED: AUGUST 26, 1978

PROJECTS:

GENERAL GEOGRAPHIC AREA:
NORTH AMERICA, U.S., VIRGINIA, ELIZABETH RIVER

ABSTRACT:

THE PURPOSE OF THIS INVESTIGATION WAS TO STUDY BENTHIC MACROVERTEBRATE COMMUNITIES AS INDICATORS OF POLLUTION IN THE ELIZABETH RIVER OF HAMPTON, VIRGINIA. THE STUDY WAS CONDUCTED FROM JANUARY TO AUGUST 1969 AND WAS FUNDED BY THE HAMPTON ROADS SANITATION DISTRICT.

DATA AVAILABILITY:
ON SITE INSPECTION

PLATFORM TYPES:
FIXED STATION

ARCHIVE MEDIA:
REPORTS; SAMPLES
106 PAGES, AND 350 SAMPLES

FUNDING:
HAMPTON ROADS SANITATION DISTRICT

INVENTORY:

PUBLICATIONS:

RICHARDSON, M.S., A TECHNICAL ECOLOGICAL REPORT TO THE HAMPTON ROADS SANITATION DISTRICT COMMISSION, MS THESIS COLLEGE OF WILLIAM AND MARY, WILLIAMSBURG, 1969

CONTACT:

MICHAEL D. RICHARDSON 503 754 4319
OREGON STATE UNIVERSITY
SCHOOL OF OCEANOGRAPHY
CORVALLIS OREGON USA 97331

GRID LOCATOR (LAT):
730776

PARAMETER IDENTIFICATION SECTION:

NAME	SPH/PE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
TIME	EARTH	SAMPLING TIME		8	MOS		
POSITION	EARTH	FIXED POINT		8	MOS		
CATCH/EFFORT OF BENTHIC ANIMALS	BOTTOM	GRAB		8	MOS		SEVEN-HUNDREDTHS METER SQUARED VAN VEEN GRAB
DIVERSITY INDEX OF BENTHIC ANIMALS	BOTTOM	BRILLOUIN		8	MOS		
DIVERSITY INDEX	BOTTOM	MARGALEF		8	MOS		

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
OF BENTHIC ANIMALS							
DIVERSITY INDEX OF BENTHIC ANIMALS	BOTTOM	SHANNON-WEINER		8	MOS		
SAMPLE OF BENTHIC ANIMALS	BOTTOM	ALCOHOL		8	MOS		
SAMPLE OF BENTHIC ANIMALS	BOTTOM	FORMALIN		8	MOS		
SPECIES DETERMINATION OF BENTHIC ANIMALS	BOTTOM	KEY		8	MOS		
TAXONOMIC LIST OF BENTHIC ANIMALS	BOTTOM	KEY		8	MOS		

PROJECTS:

GENERAL GEOGRAPHIC AREA:

NORTH ATLANTIC, COASTAL, U.S., DELAWARE BAY

ABSTRACT:

DATA OBTAINED DURING A SURVEY CONDUCTED FROM 1971 TO THE PRESENT ON THE LIVE OYSTER BEDS OF THE DELAWARE BAY AND TRIBUTARIES ARE PRESENTED IN REPORT FORM. MEASURED PARAMETERS INCLUDE DISTRIBUTIONS OF SPAT AND OYSTERS, THE STATUS OF THE MSX INFECTION AND VOLUMES OF MARKET OYSTERS HARVESTED ANNUALLY. THE PURPOSE OF THE INVESTIGATION HAS BEEN TO DETERMINE THE LOCATIONS AND CONDITIONS OF NATURAL SEED BEDS IN ORDER TO AID IN THE PLANNING OF INCREASED OYSTER PRODUCTION.

(MSX-MINCHINIA NELSONI (OYSTER PARASITE))

DATA AVAILABILITY:

PLATFORM TYPES:

SHIP: FIXED STATION

ARCHIVE MEDIA:

REPORTS
1/5 FILE DRAWER

FUNDING:

NOAA-PROJECT NO 3-142-R, CONTRACT NUMBER 14-17-0003-589

INVENTORY:

PUBLICATIONS:

CONTACT:

STAFF-DIVISION OF FISH AND WILDLIFE 302 678 4431
DELAWARE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL
D STREET
DOVER DELAWARE USA 19901

GRID LOCATOR (LAT):

730795

PARAMETER IDENTIFICATION SECTION:

NAME	WHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
POSITION	EARTH	FIXED POINT	MAP LOCATION	11	STATIONS		
TIME	EARTH	STATION TIME	YM	11	STATIONS		
BIOLOGICAL	BOTTOM	VISUAL		11	STATIONS		
CONDITION OF							
BENTHIC							
ANIMALS							
COUNT OF	BOTTOM	VISUAL		4	JBS		
BENTHIC							
ANIMALS							
COMMERCIAL	BOTTOM	VISUAL		4	OBS		
FISHERIES			NUMBER OF BUSHELS OF		ANNUALLY		

11 OYSTER BEDS

007450

LIVE OYSTER BED AND CLUTCH SURVEY OF THE DELAWARE BAY AND TRIBUTARIES (CONT.)

PAGE 02

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
.....							

ACTIVITIES

MARKET OYSTERS
LANDED PER
YEAR

007831

AN ENVIRONMENTAL INVENTORY OF THE QUEEN ANNE'S HARBOR TRACT
DATA COLLECTED. SEPTEMBER 1973 TO DECEMBER 1973

PAGE 01
RECEIVED: JULY 26, 1976

PROJECTS:

GENERAL GEOGRAPHIC AREA:
NORTH AMERICA, U.S., MARYLAND, ANNE ARUNDEL COUNTY, BOOKIN NECK AREA

ABSTRACT:
BIOLOGICAL, PHYSICAL, AND CHEMICAL PARAMETERS WERE COLLECTED FROM SEPTEMBER THROUGH DECEMBER, 1973 TO PRODUCE A DATA BASELINE FOR THE QUEEN ANNE'S HARBOR, BROOKIN NECK AREA, MARYLAND. PARAMETERS INCLUDE SPECIES COUNT OF PLANTS, ANIMALS, AND FISH, NUTRIENTS, TEMPERATURE, SALINITY, METALS, TURBIDITY, AND DISSOLVED SOLIDS AND GASES.
(PROJECT CARRIED OUT BY JACK MCCORMICK AND ASSOCIATES FOR STATE OF MARYLAND)

DATA AVAILABILITY:
AVAILABLE UPON REQUEST FROM JACK MCCORMICK AND ASSOCIATES OFFICE IN BERWYN, PENNSYLVANIA

PLATFORM TYPES:
FIXED STATION

ARCHIVE MEDIA:
REPORTS
85 PAGES

FUNDING:
STATE OF MARYLAND, DEPARTMENT OF NATURAL RESOURCES

INVENTORY:

PUBLICATIONS:

CONTACT:
JACK MCCORMICK 215 647 9000
JACK MCCORMICK AND ASSOCIATES
511 OLD LANCASTER ROAD
BERWYN PENNSYLVANIA USA 19312

GRID LOCATOR (LAT):
7307963100

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
POSITION	EARTH	FIXED POINT	MAP LOCATIONS	13	STATIONS 1 SURVEY		
TIME	EARTH	STATION TIME	WHO	13	STATIONS 1 SURVEY		
TAXONOMIC LIST	LAND	KEY	QUALITATIVE	1	STATIONS 1 SURVEY		
OF LAND PLANTS	AIR	VISUAL	QUALITATIVE	6	STATIONS 1 SURVEY		
COUNT OF BIRDS	AIR	KEY	QUALITATIVE	6	STATIONS 1 SURVEY		
SPECIES							
DETERMINATION							
OF BIRDS							
COUNT OF	WATER	VISUAL	QUALITATIVE	6	STATIONS 1 SURVEY		
AMPHIBIANS							
SPECIES	WATER	KEY	QUALITATIVE	6	STATIONS 1 SURVEY		

PARAMETER IDENTIFICATION SECTION:

NAME	SPECIES	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
DETERMINATION OF AMPHIBIANS							
SPECIES							
DETERMINATION OF MAMMALS							
COUNT OF MAMMALS							
TEMPERATURE							
SALINITY							
ELECTRICAL CONDUCTIVITY							
PH							
DISSOLVED OXYGEN GAS							
ORGANIC CARBON							
KJELDAHL NITROGEN							
PHOSPHATE							
SULFATE							
SULFIDE							
LIGHT ATTENUATION							
N							
COLOR							
ZINC							
MERCURY							
COPPER							
IRON							
LEAD							
KJELDAHL NITROGEN							
SULFIDE							
PHOSPHATE							
CHEMICAL OXYGEN DEMAND							
OILS							
ZINC							
MERCURY							
COPPER							
IRON							
LEAD							
LAND		KEY	QUALITATIVE	6	STATIONS	1 SURVEY	
LAND		VISUAL	QUALITATIVE	6	STATIONS	1 SURVEY	
WATER		RESISTANCE THERMOMETER	DEG C	13	STATIONS	1 SURVEY	
WATER		CONDUCTIVITY	PARTS/THOUSAND	13	STATIONS	1 SURVEY	
WATER		LAB CONDUCTIVITY CELL	MHOS/CENTIMETER	13	STATIONS	1 SURVEY	
WATER		PH METER	PH UNITS	13	STATIONS	1 SURVEY	
WATER		TITRATION	MILLIGRAM/LITER	13	STATIONS	1 SURVEY	
WATER		AUTOANALYZER	MILLIGRAM/LITER	13	STATIONS	1 SURVEY	
WATER		SPECTROPHOTOMETRY	MILLIGRAM/LITER	13	STATIONS	1 SURVEY	
WATER		SPECTROPHOTOMETRY	MILLIGRAM/LITER	13	STATIONS	1 SURVEY	
WATER		SPECTROPHOTOMETRY	MILLIGRAM/LITER	13	STATIONS	1 SURVEY	
WATER		TITRATION	MILLIGRAM/LITER	13	STATIONS	1 SURVEY	
WATER		COLORIMETRY	FTU	13	STATIONS	1 SURVEY	
WATER		COLORIMETRY	PLATINUM-COBALT UNITS	39	OBS	3 OBS/STATION	
WATER		ATOMIC ABSORPTION SPECTROMETRY	MILLIGRAM/LITER	39	OBS	3 OBS/STATION	
WATER		ATOMIC ABSORPTION SPECTROMETRY	MILLIGRAM/LITER	39	OBS	3 OBS/STATION	
WATER		ATOMIC ABSORPTION SPECTROMETRY	MILLIGRAM/LITER	39	OBS	3 OBS/STATION	
WATER		ATOMIC ABSORPTION SPECTROMETRY	MILLIGRAM/LITER	39	OBS	3 OBS/STATION	
WATER		ATOMIC ABSORPTION SPECTROMETRY	MILLIGRAM/LITER	39	OBS	3 OBS/STATION	
WATER		ATOMIC ABSORPTION SPECTROMETRY	MILLIGRAM/LITER	39	OBS	3 OBS/STATION	
SEDIMENT		SPECTROPHOTOMETRY	MILLIGRAM/LITER	39	OBS	3 OBS/STATION	
SEDIMENT		TITRATION	MILLIGRAM/LITER	39	OBS	3 OBS/STATION	
SEDIMENT		SPECTROPHOTOMETRY	MILLIGRAM/LITER	39	OBS	3 OBS/STATION	
SEDIMENT		DIGESTION	MILLIGRAM/LITER	39	OBS	3 OBS/STATION	
SEDIMENT		EXTRACTION/WEIGHT	MILLIGRAM/LITER	39	OBS	3 OBS/STATION	
SEDIMENT		ATOMIC ABSORPTION SPECTROMETRY	MILLIGRAM/LITER	39	OBS	3 OBS/STATION	
SEDIMENT		ATOMIC ABSORPTION SPECTROMETRY	MILLIGRAM/LITER	39	OBS	3 OBS/STATION	
SEDIMENT		ATOMIC ABSORPTION SPECTROMETRY	MILLIGRAM/LITER	39	OBS	3 OBS/STATION	
SEDIMENT		ATOMIC ABSORPTION SPECTROMETRY	MILLIGRAM/LITER	39	OBS	3 OBS/STATION	
SEDIMENT		ATOMIC ABSORPTION SPECTROMETRY	MILLIGRAM/LITER	39	OBS	3 OBS/STATION	
SEDIMENT		ATOMIC ABSORPTION SPECTROMETRY	MILLIGRAM/LITER	39	OBS	3 OBS/STATION	
SEDIMENT		ATOMIC ABSORPTION SPECTROMETRY	MILLIGRAM/LITER	39	OBS	3 OBS/STATION	

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
COUNT OF PELAGIC FISH	WATER	VISUAL	NUMBER/1000 SQUARE FOOT	20 OBS	5 OBS/SURVEY		
SPECIES DETERMINATION OF PELAGIC FISH	WATER	KEY	NUMBER/1000 SQUARE FOOT	20 OBS	5 OBS/SURVEY		
COUNT OF BENTHIC ANIMALS	BOTTOM	VISUAL	NUMBER/SQUARE FOOT	13 STATIONS	1 SURVEY		
SPECIES DETERMINATION OF BENTHIC ANIMALS	BOTTOM	KEY	NUMBER/SQUARE FOOT	13 STATIONS	1 SURVEY		
COUNT OF ZOOPLANKTON	WATER	VISUAL	NUMBER/CUBIC METER	3 OBS	1 SURVEY		
SPECIES DETERMINATION OF ZOOPLANKTON	WATER	KEY	NUMBER/CUBIC METER	3 OBS	1 SURVEY		
COUNT OF PHYTOPLANKTON	WATER	VISUAL	NUMBER/CUBIC METER	3 OBS	1 SURVEY		
SPECIES DETERMINATION OF PHYTOPLANKTON	WATER	KEY	NUMBER/CUBIC METER	3 OBS	1 SURVEY		
COUNT OF MICROBIOTA	WATER	VISUAL	NUMBER/100 MILLILITER	39 OBS	3 OBS/STATION		TOTAL BACTERIA; FECAL BACTERIA; TOTAL COLIFORM; TOTAL STREPTOCOCCI
TOTAL DISSOLVED SOLIDS	DISSOLVED	DECCATION WEIGHT	MILLIGRAM/LITER	39 OBS	3 OBS/STATION		
PARTICULATE MATTER	WATER	MEMBRANE FILTRATION	MILLIGRAM/LITER	39 OBS	3 OBS/STATION		

PROJECTS:

ENLARGEMENT OF THE CHESAPEAKE AND DELAWARE CANAL

GENERAL GEOGRAPHIC AREA:

NORTH ATLANTIC, COASTAL, U.S., DELMARVA PENINSULA, CHESAPEAKE AND DELAWARE CANAL

ABSTRACT:

DATA COLLECTED ON THE PLANKTONIC AND BENTHIC ORGANISMS FOUND IN THE CHESAPEAKE AND DELAWARE CANAL AND ADJACENT WATERS DURING THE 1974 ECOLOGICAL STUDY OF THE AQUATIC ENVIRONMENT IN THE VICINITY OF THE PROPOSED SUMMIT POWER STATION ARE PRESENTED IN REPORT FORM. SPECIES DETERMINATIONS AND DISTRIBUTIONS OF PHYTOPLANKTON, ZOOPLANKTON AND BENTHIC ORGANISMS ARE GIVEN IN ORDER TO OBTAIN INFORMATION ABOUT DAILY AND SEASONAL CHANGES IN POPULATION STRUCTURE. VITALITY STUDIES ON THE ZOOPLANKTON ARE INCLUDED. THE RESULTS OF A COMPREHENSIVE ANALYSIS OF THE PHYSICAL/CHEMICAL ENVIRONMENT IN THE CANAL WATERS DURING THE BIOLOGICAL SAMPLING PROGRAM ARE ALSO AVAILABLE. MEASURED PARAMETERS INCLUDE COLIFORM COUNTS, NUTRIENTS, PIGMENTS, HEAVY METALS, OIL AND GREASE, TEMPERATURE, SALINITY, DISSOLVED OXYGEN GAS, PH, TURBIDITY AND TRANSPARENCY, HARDNESS, TOTAL ALKALINITY, CARBONATE ALKALINITY, SULFATE, TOTAL DISSOLVED SOLIDS, SUSPENDED SOLIDS, TOTAL PHOSPHORUS, DISSOLVED PHOSPHORUS, NITRATE-NITROGEN, NITRITE-NITROGEN, AMMONIA, ORGANIC NITROGEN, MAGNESIUM, CALCIUM AND TOTAL SILICA.

DATA AVAILABILITY:

UPON PERMISSION FROM DELMARVA POWER AND LIGHT COMPANY

PLATFORM TYPES:

SHIP; FIXED STATION

ARCHIVE MEDIA:

REPORTS

103 PAGES

FUNDING:

DELMARVA POWER AND LIGHT COMPANY

INVENTORY:

PUBLICATIONS:

INTERPRETIVE REPORT 1974 BY RAYTHEON COMPANY FOR UNITED ENGINEERS AND CONSTRUCTORS INC., CLIENT: DELMARVA POWER AND LIGHT COMPANY; COMPLETE REPORT OF RAW DATA IN ANNUAL DATA REPORT

CONTACT:

HUDSON HOEN 302 479 3205
DELMARVA POWER AND LIGHT COMPANY
800 KING STREET
WILMINGTON DELAWARE USA 19899

GRID LOCATOR (LAT):

73079533

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
POSITION	EARTH	FIXED POINT	MAP LOCATION	7 STATIONS			
TIME	EARTH	STATION TIME	YMD	7 STATIONS			
TEMPERATURE	WATER	THERMISTOR	DEG F	686 OBS	BIWEEKLY TO MONTHLY	SURFACE, BOTTOM	1 SAMPLE PER OBS; 7 STATIONS; TAKEN WITH ALL BIOLOGICAL SAMPLINGS; JANUARY-DECEMBER
SALINITY	WATER	TITRATION	PPT	686 OBS	BIWEEKLY TO MONTHLY	SURFACE, BOTTOM	1 SAMPLE PER OBS; 7 STATIONS; TAKEN WITH ALL BIOLOGICAL SAMPLINGS; JANUARY-DECEMBER
DISSOLVED OXYGEN GAS	WATER	SPECIFIC ION ELECTRODE	MG/L	686 OBS	BIWEEKLY TO MONTHLY	SURFACE, BOTTOM	1 SAMPLE PER OBS; 7 STATIONS; TAKEN WITH ALL BIOLOGICAL SAMPLINGS; JANUARY-DECEMBER
PH	WATER	PH METER	PH UNITS	686 OBS	BIWEEKLY TO MONTHLY	SURFACE, BOTTOM	1 SAMPLE PER OBS; 7 STATIONS; TAKEN WITH ALL BIOLOGICAL SAMPLINGS; JANUARY-DECEMBER
LIGHT ATTENUATION	WATER	COLORIMETRY	PERCENT TRANSMITTANCE, JTU	686 OBS	BIWEEKLY TO MONTHLY	SURFACE, BOTTOM	1 SAMPLE PER OBS; 7 STATIONS; TAKEN WITH ALL BIOLOGICAL SAMPLINGS; JANUARY-DECEMBER
HARDNESS	WATER	EDTA TITRATION	MG/L	80 OBS	MONTHLY - JANUARY, FEBRUARY, NOVEMBER, DECEMBER, BIWEEKLY - MARCH-OCTOBER	SURFACE, BOTTOM	1 SAMPLE PER OBS; 2 STATIONS
TOTAL ALKALINITY	WATER	TITRATION	MG/L	80 OBS	MONTHLY - JANUARY, FEBRUARY, NOVEMBER,	SURFACE, BOTTOM	1 SAMPLE PER OBS; 2 STATIONS

DELMARVA ECOLOGICAL SURVEY PLANKTONIC AND BENTHIC ORGANISMS (CONT.)

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
CARBONATE ALKALINITY	WATER	TITRATION	MG/L	80	OBS	SURFACE, BOTTOM	1 SAMPLE PER OBS; 2 STATIONS
SULFATE	WATER	NEPHELOMETRY	MG/L	80	OBS	SURFACE, BOTTOM	1 SAMPLE PER OBS; 2 STATIONS
TOTAL DISSOLVED SOLIDS	DISSOLVED	DESICCATION WEIGHT	MG/L	80	OBS	SURFACE, BOTTOM	1 SAMPLE PER OBS; 2 STATIONS
TOTAL SOLIDS	WATER	DRY WEIGHT	MG/L	80	OBS	SURFACE, BOTTOM	1 SAMPLE PER OBS; 2 STATIONS
PHOSPHORUS	WATER	COLORIMETRY	MG/L	80	OBS	SURFACE, BOTTOM	1 SAMPLE PER OBS; 2 STATIONS
PHOSPHORUS	DISSOLVED	COLORIMETRY	MG/L	80	OBS	SURFACE, BOTTOM	1 SAMPLE PER OBS; 2 STATIONS
AMMONIA	WATER	TITRATION	MG/L	80	OBS	SURFACE, BOTTOM	1 SAMPLE PER OBS; 2 STATIONS

DELMARVA ECOLOGICAL SURVEY PLANKTONIC AND BENIHC ORGANISMS (CONT.)

008017

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
ORGANIC NITROGEN	WATER	TITRATION	MG/L	80	OBS	SURFACE, BOTTOM	1 SAMPLE PER OBS; 2 STATIONS
NITRATE	WATER	COLORIMETRY	MG/L	80	OBS	SURFACE, BOTTOM	1 SAMPLE PER OBS; 2 STATIONS
NITRITE	WATER	COLORIMETRY	MG/L	80	OBS	SURFACE, BOTTOM	1 SAMPLE PER OBS; 2 STATIONS
OILS	WATER	EXTRACTION/WEIGHT	MG/L	80	OBS	SURFACE, BOTTOM	1 SAMPLE PER OBS; 2 STATIONS
MAGNESIUM	WATER	ATOMIC ABSORPTION SPECTROMETRY	UG/L	80	OBS	SURFACE, BOTTOM	1 SAMPLE PER OBS; 2 STATIONS
CALCIUM	WATER	ATOMIC ABSORPTION SPECTROMETRY	UG/L	80	OBS	SURFACE, BOTTOM	1 SAMPLE PER OBS; 2 STATIONS

PARAMETER IDENTIFICATION SECTION:

NAME	SAMPLE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
ALUMINUM	WATER	ATOMIC ABSORPTION SPECTROMETRY	UG/L	80 OBS	MARCH-OCTOBER MONTHLY - JANUARY, FEBRUARY, NOVEMBER, DECEMBER, BIWEEKLY - MARCH-OCTOBER MONTHLY - JANUARY, FEBRUARY, NOVEMBER, DECEMBER, BIWEEKLY - MARCH-OCTOBER MONTHLY	SURFACE, BOTTOM	1 SAMPLE PER OBS; 2 STATIONS
SILICON	WATER	COLORIMETRY	MG/L	80 OBS		SURFACE, BOTTOM	1 SAMPLE PER OBS; 2 STATIONS
OILS	SEDIMENT	EXTRACTION/WEIGHT	UG/KG	5 OBS	OCTOBER MONTHLY		5 STATIONS; JULY; 1 SAMPLE PER OBS
BIOCHEMICAL OXYGEN DEMAND	WATER	TITRATION	MG/L	16 OBS	MONTHLY	SURFACE	4 STATIONS; APRIL, JUNE, AUGUST, OCTOBER; 1 SAMPLE PER OBS
CADMIUM	WATER	ATOMIC ABSORPTION SPECTROMETRY	MG/L	5 OBS	MONTHLY	SURFACE	5 STATIONS; JULY; 1 SAMPLE PER OBS
CHROMIUM	WATER	ATOMIC ABSORPTION SPECTROMETRY	MG/L	5 OBS	MONTHLY	SURFACE	5 STATIONS; JULY; 1 SAMPLE PER OBS
NICKEL	WATER	ATOMIC ABSORPTION SPECTROMETRY	MG/L	5 OBS	MONTHLY	SURFACE	5 STATIONS; JULY; 1 SAMPLE PER OBS
LEAD	WATER	ATOMIC ABSORPTION SPECTROMETRY	MG/L	5 OBS	MONTHLY	SURFACE	5 STATIONS; JULY; 1 SAMPLE PER OBS
ZINC	WATER	ATOMIC ABSORPTION SPECTROMETRY	MG/L	5 OBS	MONTHLY	SURFACE	5 STATIONS; JULY; 1 SAMPLE PER OBS
IRON	WATER	ATOMIC ABSORPTION SPECTROMETRY	MG/L	5 OBS	MONTHLY	SURFACE	5 STATIONS; JULY; 1 SAMPLE PER OBS
MERCURY	WATER	ATOMIC ABSORPTION SPECTROMETRY	MG/L	5 OBS	MONTHLY	SURFACE	5 STATIONS; JULY; 1 SAMPLE PER OBS
CHROMIUM	SEDIMENT	ATOMIC ABSORPTION SPECTROMETRY	UG/KG	5 OBS	MONTHLY		5 STATIONS; JULY; 1 SAMPLE PER OBS
NICKEL	SEDIMENT	ATOMIC ABSORPTION SPECTROMETRY	UG/KG	5 OBS	MONTHLY		5 STATIONS; JULY; 1 SAMPLE PER OBS

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
LEAD	SEDIMENT	ATOMIC ABSORPTION SPECTROMETRY	UG/KG	5	MONTHLY		5 STATIONS; JULY; 1 SAMPLE PER OBS
ZINC	SEDIMENT	ATOMIC ABSORPTION SPECTROMETRY	UG/KG	5	MONTHLY		5 STATIONS; JULY; 1 SAMPLE PER OBS
IRON	SEDIMENT	ATOMIC ABSORPTION SPECTROMETRY	UG/KG	5	MONTHLY		5 STATIONS; JULY; 1 SAMPLE PER OBS
MERCURY	SEDIMENT	ATOMIC ABSORPTION SPECTROMETRY	UG/KG	5	MONTHLY		5 STATIONS; JULY; 1 SAMPLE PER OBS
COUNT OF MICROBIOTA	WATER	VISUAL	COLONIES PER 100 ML	64	MONTHLY	SURFACE, BOTTOM	5 STATIONS; JULY; 1 SAMPLE PER OBS TOTAL AND FECAL COLIFORM COUNT: 4 STATIONS; APRIL, JUNE, AUGUST, OCTOBER; 2 SAMPLES PER OBS
CHLOROPHYLL A	WATER	FLUOROMETRY	MG/M3	4	MONTHLY	SURFACE, BOTTOM	4 STATIONS; JANUARY, MARCH- OCTOBER; 2 SAMPLES PER OBS
TOTAL PHAEOPHYTIN	WATER	FLUOROMETRY	MG/M3	4	MONTHLY	SURFACE, BOTTOM	4 STATIONS; JANUARY, MARCH- OCTOBER; 2 SAMPLES PER OBS
COUNT OF PHYTOPLANKTON	WATER	FILTRATION	NUMBER PER SPECIES PER ML PER SAMPLE	560	MONTHLY - JANUARY, FEBRUARY, NOVEMBER, DECEMBER, BIWEEKLY - MARCH- OCTOBER	SURFACE, BOTTOM	7 STATIONS; 2 SAMPLES PER OBS
SPECIES DETERMINATION OF PHYTOPLANKTON	WATER	KEY	SPECIES PER ML PER SAMPLE	560	MONTHLY - JANUARY, FEBRUARY, NOVEMBER, DECEMBER, BIWEEKLY - MARCH- OCTOBER	SURFACE, BOTTOM	7 STATIONS; 2 SAMPLES PER OBS
COUNT OF ZOOPLANKTON	WATER	FIXED, STAINED, ALIQUOT	NUMBER PER SPECIES PER M3 PER SAMPLE	560	MONTHLY - JANUARY, FEBRUARY, NOVEMBER, DECEMBER, BIWEEKLY -	SURFACE, BOTTOM	7 STATIONS; 2 SAMPLES PER OBS 5-TENTHS M, 500-MICRON MESH NET USED IN SAMPLING;

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
SPECIES DETERMINATION OF ZOOPLANKTON	WATER	KEY	SPECIES PER M3 PER SAMPLE	560 OBS	MARCH-OCTOBER MONTHLY - JANUARY, FEBRUARY, NOVEMBER, DECEMBER, BIWEEKLY - MARCH-OCTOBER MONTHLY	SURFACE, BOTTOM	DAY SAMPLING COUNT OF ZOOPLANKTON
MORTALITY OF ZOOPLANKTON	WATER	VISUAL	PERCENT OF TOTAL INDIVIDUALS PER SPECIES DEAD AT TIME OF SAMPLING PER SAMPLE	16 OBS		SURFACE, BOTTOM	2 STATIONS; 1 SAMPLE PER OBS; MARCH, JULY, SEPTEMBER, NOVEMBER
SPECIES DETERMINATION OF BENTHIC ANIMALS	BOTTOM	KEY	SPECIES PER SAMPLE	135 OBS	MONTHLY		5 STATIONS; 3 SAMPLES PER OBS; APRIL - NOVEMBER; 523 CM2 PONAR SAMPLER
COUNT OF BENTHIC ANIMALS	BOTTOM	MICROSCOPE	NUMBERS PER SPECIES PER SAMPLE	135 OBS	MONTHLY		5 STATIONS; 3 SAMPLES PER OBS; APRIL - NOVEMBER; 523 CM2 PONAR SAMPLER
REACTIVE PHOSPHATE	WATER	COLORIMETRY	UG/L	72 OBS	MONTHLY	SURFACE, BOTTOM	

PROJECTS:

GENERAL GEOGRAPHIC AREA:

NORTH AMERICA, U.S., MAINE TO NEW JERSEY, COASTAL

ABSTRACT:

SINCE 1975, DR. SAUL B. SAILA AT THE UNIVERSITY OF RHODE ISLAND'S NARRAGANSETT BAY CAMPUS, NARRAGANSETT, RHODE ISLAND 02882, HAS BEEN OBSERVING NEOPLASM IN MYA ARENARIA (SOFT-SHELLED CLAM). NINE SITES FROM COASTAL MAINE TO NEW JERSEY WERE CHOSEN BY THE DEGREE OF ENVIRONMENTAL STRESS PRESENT. THESE POLLUTED, MODERATELY, AND HIGHLY POLLUTED STATIONS ARE VISITED AT QUARTERLY INTERVALS. PARAMETERS MEASURED INCLUDE: COUNT, SPECIES AND SEX DETERMINATION, LENGTH, WET AND SHUCKED WEIGHT, AND MORPHOMETRIC MEASUREMENT OF BENTHIC ANIMALS. HISTOLOGICAL SLIDES OF DISEASED CLAMS, AND STORED TISSUE OF NEOPLASTIC CLAMS ARE AVAILABLE. THE DATA ARE STORED ON PUNCHED CARDS, 1 CARD FOR EACH OF THE 1,800 CLAMS STUDIED SO FAR. (NINE SITES FROM COASTAL MAINE TO NEW JERSEY WERE CHOSEN BY THE DEGREE OF ENVIRONMENTAL STRESS. THESE SITES ARE VISITED AT QUARTERLY INTERVALS)

DATA AVAILABILITY:

RESTRICTED TO QUALIFIED INVESTIGATORS AT COST OF REPRODUCTION

PLATFORM TYPES:

FIXED STATION

ARCHIVE MEDIA:

PUNCHED CARDS; SAMPLES

1,800 PUNCHED CARDS; 1800 SLIDES

FUNDING:

INVENTORY:

PUBLICATIONS:

CONTACT:

DR. SAUL B. SAILA 401 792 6239
UNIVERSITY OF RHODE ISLAND
NARRAGANSETT BAY CAMPUS, MARINE BUILDING
NARRAGANSETT RHODE ISLAND USA 02882

GRID LOCATOR (LAT):

730794 740619 740639 740647 740648 740702 740703 740710 740711 740712 740713 740720 740730

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
TIME	EARTH	STATION TIME	YMDL	9	STATIONS		
POSITION	EARTH	FIXED POINT	DM	9	STATIONS		
SPECIES	BOTTOM	KEY		9	STATIONS	4 OBS/YR	MYA ARENARIA (SOFT-SHELLED CLAMS)
DETERMINATION OF BENTHIC ANIMALS							
COUNT OF BENTHIC	BOTTOM	VISUAL	INDIVIDUALS/ SPECIES	9	STATIONS	4 OBS/YR	1,800 CLAMS

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
ANIMALS							
MORPHOMETRIC MEASURE OF BENTHIC ANIMALS	BOTTOM	DIRECT	MM. TO THE NEAREST FIVE-TENTHS MM	9 STATIONS	4 OBS/YR		WIDTH, DEPTH OF MYA ARE MEASURED
LENGTH OF BENTHIC ANIMALS	BOTTOM	DIRECT	MM. TO THE NEAREST FIVE-TENTHS MM	9 STATIONS	4 OBS/YR		
WEIGHT OF BENTHIC ANIMALS	BOTTOM	WET WEIGHT	G	9 STATIONS	4 OBS/YR		
WEIGHT OF BENTHIC ANIMALS	BOTTOM	DRESSED WEIGHT	G	9 STATIONS	4 OBS/YR		SHUCKED WEIGHT IS THE WEIGHT OF THE CLAM WITHOUT THE SHELL
SEX DETERMINATION OF BENTHIC ANIMALS	BOTTOM	VISUAL		9 STATIONS	4 OBS/YR		
SAMPLE OF BENTHIC ANIMALS	BOTTOM	VARIOUS		9 STATIONS	4 OBS/YR		HISTOLOGICAL SLIDES AND STORED TISSUE OF DISEASED CLAMS ARE AVAILABLE
BIOLOGICAL CONDITION OF BENTHIC ANIMALS	BOTTOM	PATHOLOGICAL		9 STATIONS	4 OBS/YR		

009399

OCEAN DISPOSAL SITE OFF THE COAST OF MARYLAND
DATA COLLECTED: MARCH 1974 TO PRESENTPAGE 0:
RECEIVED: MARCH 04, 1977

PROJECTS:

GENERAL GEOGRAPHIC AREA:
NORTH ATLANTIC OCEAN

ABSTRACT:

THE ENVIRONMENTAL PROTECTION AGENCY, ENVIRONMENTAL RESEARCH LABORATORY, HAS BEEN COLLECTING DATA SINCE MARCH 1974 FROM TWO OCEAN DISPOSAL SITES APPROXIMATELY 60 MILES OFF THE COAST OF MARYLAND. THE PARAMETERS INCLUDED IN THIS STUDY ARE: ALUMINUM, CADMIUM, CHROMIUM, COBALT, COPPER, IRON, LEAD, MANGANESE, NICKEL, SILVER, TITANIUM, VANADIUM AND ZINC IN BOTH THE SEDIMENT AND ORGANISMS. MEASUREMENTS OF METALS IN CLAMS AND SCALLOPS ARE SEPARATED BY MUSCLE AND ORGANS. OTHER PARAMETERS INCLUDED ARE: SPECIES DETERMINATION OF BENTHIC ANIMALS, WEIGHT OF BENTHIC ANIMALS AND LENGTH OF BENTHIC ANIMALS. CONTACT DR. D.K. PHELPS, SCIENTIFIC AND TECHNICAL DIRECTOR, EPA ENVIRONMENTAL RESEARCH LABORATORY, SOUTH FERRY ROAD, NARRAGANSETT, RHODE ISLAND 02882.

DATA AVAILABILITY:

PLATFORM TYPES:
SHIPARCHIVE MEDIA:
MAGNETIC DISC
1 DISC (531200 BYTES)

FUNDING:

INVENTORY:

PUBLICATIONS:

CONTACT:

DR. D.K. PHELPS 401 789 1071
ENVIRONMENTAL PROTECTION AGENCY - REGION 1 ENVIRONMENTAL RESEARCH LABORATORY
SOUTH FERRY ROAD
NARRAGANSETT RHODE ISLAND USA 02882

GRID LOCATOR (LAT):
730773 730774 730783 730784

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
TIME	EARTH	STATION TIME	YMD	30	STATIONS		
POSITION	EARTH	LONG RANGE	DMS	30	STATIONS		
		NAVIGATIONAL					
		NET					
ALUMINUM	SEDIMENT	ATOMIC ABSORPTION SPECTROMETRY	PPM DRY WEIGHT	30	STATIONS		
CADMIUM	SEDIMENT	ATOMIC ABSORPTION SPECTROMETRY	PPM DRY WEIGHT	30	STATIONS		
CHROMIUM	SEDIMENT	ATOMIC ABSORPTION SPECTROMETRY	PPM DRY WEIGHT	30	STATIONS		
COBALT	SEDIMENT	ATOMIC ABSORPTION SPECTROMETRY	PPM DRY WEIGHT	30	STATIONS		

009399

OCEAN DISPOSAL SITE OFF THE COAST OF MARYLAND (CONT.)

PAGE 03

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
MANGANESE IN BIO MATERIAL	BOTTOM	ATOMIC ABSORPTION SPECTROMETRY	PPM DRY WEIGHT	30	STATIONS		SEPARATELY AMOUNTS IN ORGANS AND MUSCLE
NICKEL IN BIO MATERIAL	BOTTOM	ATOMIC ABSORPTION SPECTROMETRY	PPM DRY WEIGHT	30	STATIONS		DETERMINED SEPARATELY AMOUNTS IN ORGANS AND MUSCLE
SILVER IN BIO MATERIAL	BOTTOM	ATOMIC ABSORPTION SPECTROMETRY	PPM DRY WEIGHT	30	STATIONS		DETERMINED SEPARATELY AMOUNTS IN ORGANS AND MUSCLE
TITANIUM IN BIO MATERIAL	BOTTOM	ATOMIC ABSORPTION SPECTROMETRY	PPM DRY WEIGHT	30	STATIONS		DETERMINED SEPARATELY AMOUNTS IN ORGANS AND MUSCLE
VANADIUM IN BIO MATERIAL	BOTTOM	ATOMIC ABSORPTION SPECTROMETRY	PPM DRY WEIGHT	30	STATIONS		DETERMINED SEPARATELY AMOUNTS IN ORGANS AND MUSCLE
ZINC IN BIO MATERIAL	BOTTOM	ATOMIC ABSORPTION SPECTROMETRY	PPM DRY WEIGHT	30	STATIONS		DETERMINED SEPARATELY AMOUNTS IN ORGANS AND MUSCLE
SPECIES DETERMINATION OF BENTHIC ANIMALS	BOTTOM	KEY		30	STATIONS		DETERMINED SEPARATELY AMOUNTS IN ORGANS AND MUSCLE
LENGTH OF BENTHIC ANIMALS	BOTTOM	DIRECT		30	STATIONS		DETERMINED SEPARATELY AMOUNTS IN ORGANS AND MUSCLE
WEIGHT OF BENTHIC ANIMALS	BOTTOM	WET WEIGHT		30	STATIONS		DETERMINED SEPARATELY AMOUNTS IN ORGANS AND MUSCLE
POSITION	EARTH	SHORT RANGE NAVIGATIONAL NET	DMS	30	STATIONS		DETERMINED SEPARATELY CLAMS AND SCALLOPS

MINI RANGER 111

PARAMETER IDENTIFICATION SECTION:

NAME	SPHERE	METHOD	UNITS	DATA AMOUNT	FREQUENCY	HEIGHT/DEPTH	REMARKS
MANGANESE IN BIO MATERIAL	BOTTOM	ATOMIC ABSORPTION SPECTROMETRY	PPM DRY WEIGHT	30	STATIONS		SEPARATELY AMOUNTS IN ORGANS AND MUSCLE DETERMINED SEPARATELY AMOUNTS IN ORGANS AND MUSCLE
NICKEL IN BIO MATERIAL	BOTTOM	ATOMIC ABSORPTION SPECTROMETRY	PPM DRY WEIGHT	30	STATIONS		SEPARATELY AMOUNTS IN ORGANS AND MUSCLE DETERMINED SEPARATELY AMOUNTS IN ORGANS AND MUSCLE
SILVER IN BIO MATERIAL	BOTTOM	ATOMIC ABSORPTION SPECTROMETRY	PPM DRY WEIGHT	30	STATIONS		SEPARATELY AMOUNTS IN ORGANS AND MUSCLE DETERMINED SEPARATELY AMOUNTS IN ORGANS AND MUSCLE
TITANIUM IN BIO MATERIAL	BOTTOM	ATOMIC ABSORPTION SPECTROMETRY	PPM DRY WEIGHT	30	STATIONS		SEPARATELY AMOUNTS IN ORGANS AND MUSCLE DETERMINED SEPARATELY AMOUNTS IN ORGANS AND MUSCLE
VANADIUM IN BIO MATERIAL	BOTTOM	ATOMIC ABSORPTION SPECTROMETRY	PPM DRY WEIGHT	30	STATIONS		SEPARATELY AMOUNTS IN ORGANS AND MUSCLE DETERMINED SEPARATELY AMOUNTS IN ORGANS AND MUSCLE
ZINC IN BIO MATERIAL	BOTTOM	ATOMIC ABSORPTION SPECTROMETRY	PPM DRY WEIGHT	30	STATIONS		SEPARATELY AMOUNTS IN ORGANS AND MUSCLE DETERMINED SEPARATELY AMOUNTS IN ORGANS AND MUSCLE
SPECIES DETERMINATION OF BENTHIC ANIMALS	BOTTOM	KEY		30	STATIONS		SEPARATELY AMOUNTS IN ORGANS AND MUSCLE DETERMINED SEPARATELY AMOUNTS IN ORGANS AND MUSCLE
LENGTH OF BENTHIC ANIMALS	BOTTOM	DIRECT		30	STATIONS		SEPARATELY AMOUNTS IN ORGANS AND MUSCLE DETERMINED SEPARATELY AMOUNTS IN ORGANS AND MUSCLE
WEIGHT OF BENTHIC ANIMALS	BOTTOM	WET WEIGHT		30	STATIONS		SEPARATELY AMOUNTS IN ORGANS AND MUSCLE DETERMINED SEPARATELY AMOUNTS IN ORGANS AND MUSCLE
POSITION	EARTH	SHORT RANGE NAVIGATIONAL NET	DMS	30	STATIONS		SEPARATELY AMOUNTS IN ORGANS AND MUSCLE DETERMINED SEPARATELY AMOUNTS IN ORGANS AND MUSCLE

MINI RANGER III

ANNEX II

Data Files

Part B

Data File Index - Listed by Key Word

Shellfish Bed Closures

This index contains an alphabetical listing by key word of the data files in this annex. After some key words is a number or series of numbers which reference the page numbers of the particular file(s) within this report. Most of the files are referenced by more than one key word. Underlined numbers indicate files generated after January 1, 1973.

The key words which do not reference any relevant files are included to indicate the extent of the file search.

ANNEX II

Part B
Data File Index-Listed by Key Word
Shellfish Bed Closures

2,4-D (sediment) - herbicide
none

2,4-D (suspended)
none

2,4-D (water)
none

2,4-D in bio material (bottom)
none

2,4,5-T (sediment) - herbicide
none

2,4,5-T (suspended)
none

2,4,5-T (water)
none

2,4,5-T in bio material (sediment)
none

2,4,5-T in bio material (suspended)
none

2,4,5-T in bio material (water)
none

ABS
use surfactants

acaraben
use chlorobenzilate

aldrin (sediment) - insecticide
31

aldrin (water)
none

aldrin in bio material (bottom)
none

aldrin in bio material (water)
31

aliphatic hydrocarbons (dissolved)
none

aliphatic hydrocarbons (sediment)
none

aliphatic hydrocarbons (water)
none

aliphatic hydrocarbons in bio material (water)
none

alpha activity (dissolved)
none

alpha activity (sediment)
none

alpha activity (suspended)
none

alpha activity (water)
none

alpha B.H.C.
use lindane

ametryne (water) - herbicide
none

ammonia (dissolved)
none

ammonia (interstitial)
none

ammonia (sediment)
none

ammonia (water)

57, 83

amphibol (sediment) - asbestos

none

amphibol (water)

none

antimony (dissolved)

none

antimony (sediment)

none

antimony (water)

none

antimony in bio material (bottom)

none

antimony in bio material (water)

none

aromatic hydrocarbons (dissolved)

none

aromatic hydrocarbons (suspended)

none

aromatic hydrocarbons (water)

none

aromatic hydrocarbons in bio material (water)

none

arsenic (dissolved)

none

arsenic (sediment)

none

arsenic (suspended)

none

arsenic (water)

none

arsenic in bio material (bottom)
none

arsenic in bio material (water)
none

asbestos
use amphibol. chrysotile.

atrazine (water) - herbicide
none

atrazine in bio material (bottom)
none

atrazine in bio material (water)
none

benzopyrene (water)
none

beryllium (dissolved)
none

beryllium (sediment)
none

beryllium (suspended)
none

beryllium (water)
none

beryllium in bio material (bottom)
none

beryllium in bio material (water)
none

beta activity (dissolved)
none

beta activity (sediment)
16

beta activity (suspended)
none

beta activity (water)
none

beta activity in benthic animals (bottom)
16

beta and gamma activity (interstitial)
none

beta and gamma activity (sediment)
none

beta and gamma activity (suspended)
none

beta and gamma activity (water)
none

beta and gamma activity in bio material (water)
none

beta B.H.C.
use lindane

B.H.C. (sediment) - insecticide
none

B.H.C. (water)
none

B.H.C. in bio material (water)
none

biological condition of benthic animals (bottom)
78, 90

biomass of microbiota (sediment)
none

biomass of microbiota (water)
none

cadmium (dissolved)
none

cadmium (interstitial)
none

cadmium (sediment)
21, 65, 68, 92

cadmium (suspended)
none

cadmium (water)
65, 83

cadmium in bio material (bottom)
54, 92

cadmium in bio material (sediment)
none

cadmium in bio material (water)
8, 9, 11, 12, 27, 39, 65

captan (water) - fungicide
none

caracide
use chlorobenside

carbaryl (sediment) - pesticide
none

carbaryl (water)
none

carbofuran (water) - insecticide
none

carbon tetrachloride (water)
none

catch/effort of benthic animals (bottom)
76

C.D.E.C. (water) - herbicide
none

cerium - 144 (sediment)
none

cesium - 137 (sediment)
none

cesium - 137 (water)
none

chlordan (sediment) - insecticide
31

chlordan (water)
none

chlordan in bio material (bottom)
none

chlordan in bio material (water)
31

chlorinated hydrocarbons (sediment) - pesticide
none

chlorinated hydrocarbons (water)
none

chlorinated hydrocarbons in bio material (water)
none

chlorine (sediment)
none

chlorine (water)
none

chlorine in bio material (bottom)
none

chlorine in bio material (water)
none

chlorobenzide (water) - pesticide
none

chlorobenzilate (water) - insecticide
none

chloroform (water)
none

chromium (dissolved)
none

chromium (interstitial)
none

chromium (sediment)
21, 51, 65, 68, 83, 92

chromium (suspended)
none

chromium (water)
65, 83

chromium in bio material (bottom)
48, 92

chromium in bio material (sediment)
none

chromium in bio material (water)
48, 65

chrystle (water) - asbestos
none

coliform
use terms listed under microbiota

coliform index
use count of microbiota

commercial fisheries activities (bottom)
78

copper (dissolved)
none

copper (interstitial)
none

copper (sediment)
21, 51, 65, 68, 80, 92

copper (suspended)
none

copper (water)
65, 80

copper in bio material (bottom)
48, 92

copper in bio material (sediment)
none

copper in bio material (water)
8, 9, 11, 12, 39, 48, 65

count of benthic animals (bottom)
6, 19, 27, 29, 35, 55, 74,
78, 80, 83, 90

count of microbiota (sediment)
none

count of microbiota (water)
23, 29, 41, 55, 57, 74, 80, 83

cyanide (sediment)
none

cyanide (water)
none

cyanide in bio material (water)
none

dacthal (water) - herbicide
none

DCPA
use dacthal

DDA (sediment) - insecticide
none

DDA (water)
none

DDA in bio material (water)
none

DDD (sediment) - insecticide
31

DDD (water)
none

DDD in bio material (bottom)
none

DDD in bio material (water)
31, 37, 45, 72

DDE (sediment) - insecticide
31

DDE (water)
none

DDE in bio material (bottom)
none

DDE in bio material (water)
31, 37, 45, 72

DDT (dissolved) - insecticide
none

DDT (sediment)
31

DDT (water)
none

DDT in bio material (bottom)
none

DDT in bio material (water)
31, 37, 45, 72

delta B.H.C.
use lindane

detergents (water)
none

diazinon (sediment) - pesticide
none

diazinon (water)
none

diazinon in bio material (bottom)
none

diazinon in bio material (water)
none

dicamba (water) - herbicide
none

dicamba in bio material (water)
none

dichlone (water) - herbicide
none

dicofol (sediment) - insecticide
none

dicofol (water)
none

dieldrin (dissolved) - insecticide
none

dieldrin (sediment)
31

dieldrin (water)
none

dieldrin in bio material (bottom)
none

dieldrin in bio material (water)
31, 37, 45, 72

dilan (water) - insecticide
none

dilan in bio material (bottom)
none

dimethoate (water) - insecticide
none

dinitrophenol (water) - herbicide
none

dinitrophenol in bio material (water)
none

diquat (water) - herbicide
none

diquat in bio material (water)
none

distribution of benthic animals
use count of benthic animals,
species determination of benthic
animals

diuron (water) - herbicide
none

dylox
use trichlorfon

dyrene (water) - fungicide
none

endosulfan
use thiodan

endrin (sediment)
31

endrin (water)
none

endrin in bio material (bottom)
none

endrin in bio material (water)
31

epsilon B.H.C.
use lindane

ethion (sediment) - pesticide
none

ethion (water)
none

fecal coliform
use terms listed under microbiota

fishing
 use catch/effort, commercial
 fisheries activities

folpet (water) - fungicide
 none

fuel oil (water)
 none

fungicide
 use captan, dyrene, folpet

furadan
 use carbofuran

gamma activity (sediment)
 none

gamma activity (water)
 none

gamma activity in benthic animals (bottom)
 none

gamma activity in bio material (water)
 none

gamma B.H.C.
 use lindane

gasoline (water)
 none

grease
 use oils

gross activity (suspended)
 none

gross alpha activity
 use alpha activity

gross beta activity
 use beta activity

gross gamma activity
 use gamma activity

growth studies of microbiota (water)

none

guthion (water) - pesticide

none

guthion in bio material (water)

none

heavy metals

use cadmium, copper, lead, mercury, nickel, zinc

heptachlor (sediment) - insecticide

none

heptachlor (water)

none

heptachlor epoxide (sediment) - insecticide

none

heptachlor epoxide (water)

none

heptachlor epoxide in bio material (bottom)

none

heptachlor epoxide in bio material (water)

none

heptachlor in bio material (bottom)

none

heptachlor in bio material (water)

none

herbicide

use 2,4-D, 2,4,5-T, ametryne, atrazine, CDEC, dacthal,
dicamba, dichlone, dinitrophenol, diquat, diuron,
hexachlorobenzene, neburon, paraquat, silvex, simazine,
trifluralin

hexachlorobenzene (water) - herbicide

none

hexachlorobenzene in bio material (water)

none

hydrocarbons (dissolved)
none

hydrocarbons (sediment)
none

hydrocarbons (suspended)
none

hydrocarbons (water)
none

hydrocarbons in bio material (bottom)
none

hydrocarbons in bio material (water)
none

insecticide
use aldrin, BHC, carbofuran, chlordane, chlorobenzilate,
DDA, DDD, DDE, DDT, dicofol, dieldrin, dilan, dimethoate,
heptachlor, heptachlor epoxide, kepone, lindane,
methoxychlor, perthane, phosdrin, ronnel, tedion, thimet,
thiodan, thoxaphene, trichlorfon

kelthane
use dicofol

kepone (water) - insecticide
none

kerosene (water)
none

land use (land)
43

lead (dissolved)
none

lead (interstitial)
none

lead (sediment)
21, 51, 65, 68, 80, 83, 92

lead (suspended)
none

lead (water)
65, 80, 83

lead in bio material (bottom)
48, 92

lead in bio material (water)
27, 48, 65

lead - 210 (water)
none

lindane (sediment) - insecticide
31

lindane (water)
none

lindane in bio material (bottom)
none

lindane in bio material (water)
31

lubricating oil (water)
none

macroinvertebrates
use beta activity in benthic animals, biological condition
of benthic animals, catch/effort of benthic animals, count
of benthic animals, gamma activity in benthic animals, sample
of benthic animals, sightings of benthic animals, species
determination of benthic animals, taxonomic list of benthic
animals

malathion (sediment) - pesticide
none

malathion (water)
none

malathion in bio material (bottom)
none

malathion in bio material (water)
none

MBAS

use surfactants

mercury (dissolved)

none

mercury (interstitial)

none

mercury (sediment)

12, 21, 65, 68, 80, 83

mercury (suspended)

none

mercury (water)

65, 80, 83

mercury in bio material (bottom)

48

mercury in bio material (water)

27, 39, 48, 53, 65, 70

methoxychlor (sediment) - insecticide

none

methoxychlor (water)

none

methoxychlor in bio material (water)

none

methoxy DDT

use methoxychlor

methyl mercury (water)

none

methyl mercury in bio material (water)

none

methylparathion (sediment) - pesticide

none

methylparathion (water)

none

methyiltrithion (sediment) - pesticide
none

methyiltrithion (water)
none

mevinphos
use phosdrin

microbiota
use biomass of microbiota, count of microbiota, growth
studies of microbiota, sample of microbiota, species
determination of microbiota, taxonomic list of microbiota,
volume determination of microbiota, weight of microbiota

mirex (sediment) - pesticide
none

mirex (water)
none

mirex in bio material (water)
none

mortality of benthic animals (bottom)
none

neburon (water) - herbicide
none

nickel (dissolved)
none

nickel (interstitial)
none

nickel (sediment)
21, 65, 68, 83, 92

nickel (suspended)
none

nickel (water)
65, 83

nickel in bio material (bottom)
92

nickel in bio material (sediment)
none

nickel in bio material (water)
65

oil degradation (sediment)
none

oil degradation (water)
none

oil slick coverage (water)
none

oil slick occurrence (sediment)
none

oil slick occurrence (water)
none

oils (sediment)
80, 83

oils (water)
83

oils in bio material (bottom)
none

oils in bio material (water)
none

ortho-para DDD
use DDD

ortho-para DDE
use DDE

ortho-para DDT
use DDT

para-para DDD
use DDD

para-para DDE
use DDE

para-para DDT
use DDT

paraquat (water) - herbicide
none

parathion (sediment)
none

parathion (water)
none

parathion in bio material (bottom)
none

parathion in bio material (water)
none

PCB
use polychlorinated biphenyls

perthane (water) - insecticide
none

pesticide
use carbaryl, chlorinated hydrocarbons, chlorobenside,
diazinon, ethion, guthion, malathion, methylparathion,
methyltrichlorfon, mirex, trithion

phenols (dissolved)
none

phenols (sediment)
none

phenols (water)
none

phenols in bio material (water)
none

phorate
use thimet

phosdrin (water) - insecticide
none

polychlorinated biphenyls (sediment)

31

polychlorinated biphenyls (water)

none

polychlorinated biphenyls in bio material (bottom)

none

polychlorinated biphenyls in bio material (water)

31, 45

radium - 226 (water)

none

radium - 228 (water)

none

ronnel (water) - insecticide

none

ruthenium - 106 (sediment)

none

sample of benthic animals (bottom)

76

sample of microbiota (sediment)

none

sample of microbiota (water)

none

selenium (dissolved)

none

selenium (sediment)

65

selenium (water)

65

selenium in bio material

none

selenium in bio material (water)

65

sevin
 use carbaryl

sightings of benthic animals (bottom)
 none

silver (dissolved)
 none

silver (interstitial)
 none

silver (sediment)
 92

silver (suspended)
 none

silver (water)
 none

silver in bio material (bottom)
 92

silver in bio material (water)
 none

silvex (sediment) - herbicide
 none

silvex (water)
 none

simazine (water) - herbicide
 none

soap
 use detergents

species determination of benthic animals (bottom)
 8, 9, 11, 12, 16, 19, 25, 27, 29, 57, 74,
 76, 80, 83, 90, 92

species determination of microbiota (sediment)
 none

species determination of microbiota (water)
 57, 74

standing crop
use count

surfactants (water)
none

tar balls (water)
none

taxonomic list of benthic animals (bottom)
14, 25, 76

taxonomic list of microbiota (sediment)
14

taxonomic list of microbiota (water)
14

TDE
use DDD

tedion (water) - insecticide
none

telodrin (sediment)
none

telodrin (water)
none

tetradifon
use tedion

thallium (sediment)
none

thallium (water)
none

thallium in bio material (water)
none

thimet (water) - insecticide
none

thiodan (sediment) - insecticide
none

thiodan (water)
none

thorium - 228 (water)
none

total 2,4-D
use 2,4-D

total 2,4,5-T
use 2,4,5-T

toxaphene (sediment) - insecticide
31

toxaphene (water)
none

toxaphene in bio material (bottom)
none

toxaphene in bio material (water)
31

toxins in bio material (bottom)
none

toxins in bio material (water)
none

trichlorfon (water) - insecticide
none

trifluralin in bio material (bottom) - herbicide
none

trifluralin in bio material (water)
none

trithion (sediment) - pesticide
none

trithion (water)
none

vegadex
use CDEC

volume determination of microbiota (sediment)
none

volume determination of microbiota (water)
none

weight of microbiota (sediment)
none

weight of microbiota (water)
none

zinc (dissolved)
none

zinc (interstitial)
none

zinc (sediment)
21, 51, 65, 68, 80, 83, 92

zinc (suspended)
none

zinc (water)
65, 80, 83

zinc in bio material (bottom)
48, 92

zinc in bio material (sediment)
none

zinc in bio material (water)
8, 9, 11, 12, 27, 39, 48, 65

ANNEX III

Monitoring Program

Shellfish Bed Closures



