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Stomach Content Data of Marine Fish Collected from NEFC Surveys during 1977-80; Data Report of 16 Priority Species - Part I.

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INTRODUCTION

One of the objectives of the Northeast Fisheries Center (NEFC), National Marine Fisheries Service is to study the predator-prey interactions of the continental shelf ecosystem in the Northwest Atlantic. Stomach contents of fish and squid have been routinely sampled on NMFS bottom trawl surveys since 1963. The NMFS survey area includes continental shelf waters between Cape Hatteras, North Carolina and Browns Bank, Nova Scotia (Fig.1).

The NEFC fish stomach sampling program (presently called the Food Chain Dynamics Investigation) has revised its sampling protocol at 4 year intervals. During 1963 through 1966, stomach contents of fish were examined at sea. Frequency of occurrence of major prey was determined for a preliminary qualitative description of predator-prey interactions in the survey area. Stomach contents were preserved and brought back to the laboratory for processing during the 1969-72 sampling period. These data were described in terms of percentage weight, but could not be expressed by frequency of occurrence because stomach contents of different sized fish were pooled. The 1973-76 sampling protocol requested the collection of stomach contents from 17 priority species (little skate, Atlantic cod, haddock, silver hake, pollock, red hake, spotted hake, white hake, ocean pout, scup, butterfish, redfish, longhorn sculpin, fourspot flounder, witch flounder, American plaice, and yellowtail flounder) from pre-selected geographic regions (Table 2). Stomachs were individually wrapped in gauze and preserved for quantitative processing in the laboratory. This sampling strategy allowed the data to be expressed in both percentage weight and frequency of occurrence. A similar sampling scheme was used during the

1977-80 period, however, the list of priority species and areas was revised (Table 2). Stomach contents of 16 priority species and 145 miscellaneous predators were collected during the 1977-80 surveys. This data report shows preliminary results for the priority species while the miscellaneous samples were reported in Michaels et. al. (1986b).

When comparing the results of the 1973-76 with the 1977-80 stomach data for the priority species, keep in mind that the samples were preselected from certain regions and not over the entire range of the animals. For example, the main sampling regions for silver hake during 1973-76 were the middle Atlantic, southern New England, and Georges Bank, while the 1977-80 sampling for silver hake occurred mainly in the Gulf of Maine and Scotian Shelf regions.

METHODS AND MATERIALS

Stomach contents of marine fish were collected on seasonal NEFC bottom trawl surveys during the years of 1977-80. Fish were caught at stratified random stations on the continental shelf of the Northwest Atlantic (Grosslein 1974).

Randomly selected fish were measured by fork length (cm). Fish showing signs of regurgitation (i.e. food in buccal cavity) were not sampled. Stomachs were individually wrapped in gauze and preserved in 3.7% formaldehyde. In the laboratory, stomach contents were sorted and identified to the lowest possible taxon. Each prey grouping was counted and weighed to the nearest 0.001 g. The total length of fish prey was recorded to the nearest millimeter (Bowman and Michaels 1984).

These data have been entered into the VAX mainframe computer system at the NEFC laboratory in Woods Hole. A FORTRAN program (FHTABLE) was used to summarize the stomach content information by appropriate predator length categories. Insignificant prey items (defined as <0.1% of the total % wt) were not shown, but were added to the next highest taxon in order to condense the tables. Stomach content data were expressed as the percentage weight (%wt) that each prey group made up of the total stomach contents weight. Common fish names in this report were used according to the standards of the American Fisheries Society (Robins et. al. 1980).

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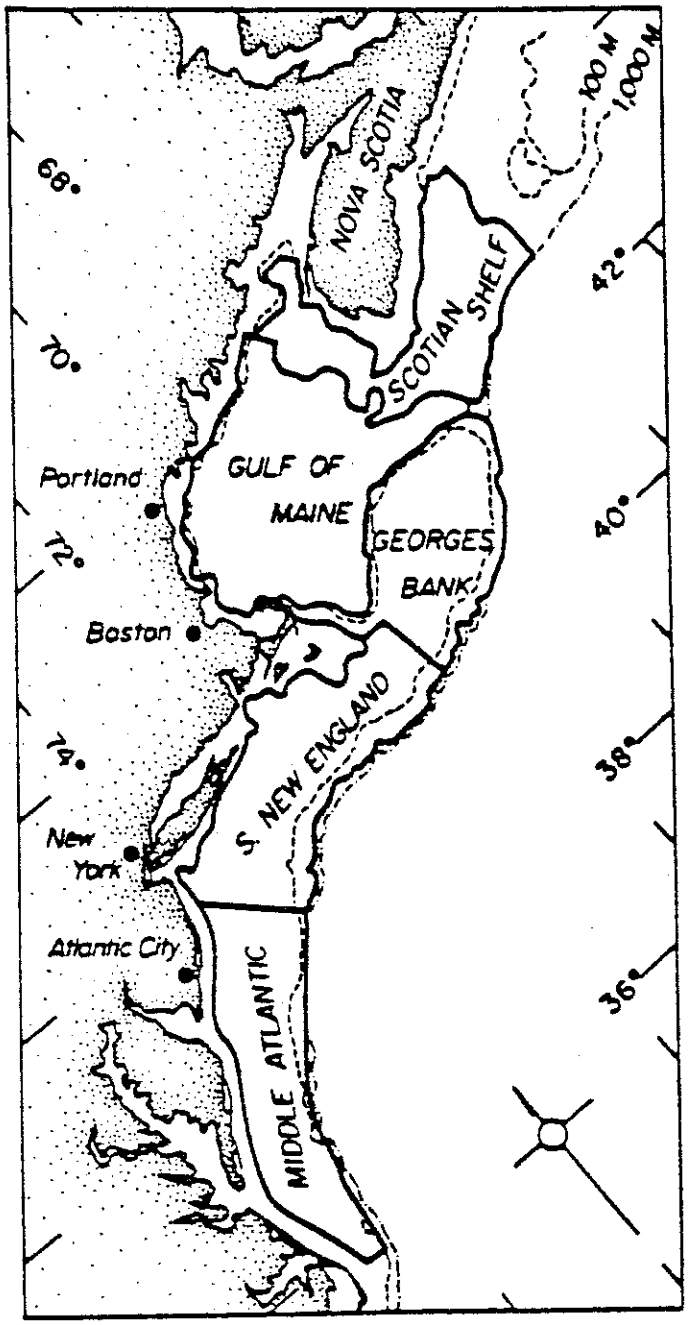

Figure 1. Geographic areas of the Northwest Atlantic sampled for fish feeding studies during 1973-1976.

TABLE 1. List of priority predators by common name*, scientific name, NEFC code**, and number of stomachs sampled during the 1977-80 NEFC bottom trawl surveys.

Common Name	Scientific Name	NMFS Code	No. of Stomachs
SMOOTH DOGFISH	*Mustelus canis*	013	688
SPINY DOGFISH	*Squalus acanthias*	015	2706
WINTER SKATE	*Raja ocellata*	023	748
ATLANTIC HERRING	*Clupea harengus*	032	153
SILVER HAKE	*Merluccius bilinearis*	072	2333
ATLANTIC COD	*Gadus morhua*	073	904
HADDOCK	*Melanogammus aeglifinus*	074	956
RED HAKE	*Urophycis chuss*	077	1489
WINTER FLOUNDER	*Pseudopleuronectes americanus*	106	1746
WINDOWPANE	*Scophthalmus aquosus*	108	1094
ATLANTIC MACKEREL	*Scomber scombrus*	121	116
BLACK SEA BASS	*Centropristis striata*	141	689
REDFISH OR OCEAN PERCH	*Sebastes marinus*	155	273
GOOSEFISH	*Lophius americanus*	197	900
SHORTFIN SQUID	*Illex illecebrosus*	502	2469
LONGFIN SQUID	*Loligo pealei*	503	2516

* Common names are accepted by the American Fisheries Society (Robins et. al. 1980).

** NMFS code is the computer code used at the Northeast Fisheries Center.

Table 2. Number of stomach samples from priority fish species collected within various geographic regions during the 1977-1980 and 1973-76 NEFC bottom trawl surveys.

Predator	Geographic regions sampled during 1977-80						
	South of Cape Hatt.	Middle Atlantic	Southern New England	Georges Bank	Gulf of Maine	Western Nova Scotia	Inshore regions
Winter skate	--	--	34	661	12	--	36
Smooth dogfish	55	121	41	--	--	--	472
Spiny dogfish	17	276	735	783	417	238	196
Atlantic herring	6	--	--	--	91	22	10
Atlantic mackerel	--	--	24	75	12	6	1
Silver hake	--	76	176	196	1209	413	193
Atlantic cod	--	6	142	179	130	12	250
Haddock	--	1	12	140	579	157	63
Pollock	--	--	--	46	28	7	1
Red hake	--	5	97	521	681	87	94
Winter flounder	-	17	464	569	57	2	638
Windowpane	12	224	132	88	--	--	637
Black sea bass	213	288	39	9	--	--	131
Redfish	--	--	--	3	86	177	--
Goosefish	1	26	362	91	316	51	25
Shortfin squid	--	423	518	792	318	202	195
Longfin squid	194	773	503	468	7	1	555

Predator	Geographic regions sampled during 1973-76 (taken from Bowman and Michaels 1984)				
	Middle Atlantic	Southern New England	Georges Bank	Gulf of Maine	Western Nova Scotia
Little skate	--	486	579	--	--
Silver hake	789	918	915	--	--
Atlantic cod	--	--	591	418	669
Haddock	--	--	642	87	747
Pollock	--	--	--	374	295
White hake	--	--	--	470	--
Red hake	--	481	--	--	--
Spotted hake	531	--	--	--	--
American plaice	--	--	--	714	784
Fourspot flounder	366	--	--	--	--
Yellowtail flounder	--	502	502	--	--
Witch flounder	--	--	--	426	386
Butterfish	678	394	--	--	--
Scup	450	262	--	--	--
Redfish	--	--	--	466	--
Longhorn sculpin	--	--	692	--	--
Ocean pout	--	239	184	--	--

TABLE 3a. Stomach contents (%wt) by 10 cm length categories for smooth dogfish.

Stomach Contents	<41	41-50	51-60	61-70	71-80	81-90	91-100	101-110	>110	Total
POLYCHAETA	8.7	1.7	7.9	3.1	1.6	1.4	1.0	0.3	0.3	0.9
SIPUNCULIDA	--	--	--	3.0	--	--	0.2	0.1	--	0.2
PHASCOLOPSIS GOULDI	--	--	--	2.9	--	--	--	--	--	0.1
SIPUNCULIDA	--	--	--	0.1	--	--	0.2	0.1	--	0.1
CRUSTACEA	24.1	37.9	53.3	64.9	83.3	78.8	73.4	78.0	74.6	74.7
AMPHIPODA	--	0.2	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	3.1	0.4
ACANTHONOTOZOMA SERRATUM	--	--	--	--	--	--	--	--	3.1	0.4
AMPHIPODA	--	0.2	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	--	<0.1
DECAPODA CRUSTACEA	15.8	31.9	34.2	58.7	75.9	75.9	71.9	76.5	69.9	72.1
HEPATUS EPHELITICUS	--	--	--	--	--	0.3	0.5	0.4	--	0.4
CALAPPIDAE	--	--	--	--	--	--	--	0.8	0.8	0.3
CANCER BOREALIS	--	1.7	--	--	--	--	4.2	0.3	1.1	1.9
CANCER IRRORATUS	--	8.6	12.6	13.9	37.9	43.8	39.7	48.1	31.2	40.1
CANCRIDAE	--	0.9	0.5	0.7	1.4	<0.1	2.4	1.7	0.9	1.6
CRANGON SEPTEMSPINOSUS	--	0.8	<0.1	0.2	0.3	0.9	<0.1	<0.1	<0.1	0.1
HOMARUS AMERICANUS	--	--	--	--	--	--	--	0.5	--	0.1
LIBINIA EMARGINATA	--	--	--	--	--	0.3	<0.1	--	1.5	0.3
LIBINIA SP	--	1.1	--	<0.1	--	--	0.9	0.2	0.6	0.5
MAJIDAE	--	1.2	0.1	--	1.5	0.2	<0.1	0.1	--	0.2
PAGURUS ACADIANUS	--	<0.1	--	--	0.3	<0.1	0.7	0.5	--	0.4
PAGURUS POLLICARIS	--	3.8	5.6	0.6	1.0	--	0.4	<0.1	0.4	0.4
PAGURUS SP	15.5	4.3	2.9	--	0.2	0.4	0.2	<0.1	--	0.3
PAGURIDAE	--	4.9	1.4	--	0.5	--	0.2	<0.1	--	0.2
OVALIPES OCELLATUS	--	1.4	4.4	17.9	20.4	11.0	8.9	14.6	24.5	13.1
OVALIPES GUADULPENSIS	--	--	--	1.5	5.2	8.1	3.7	1.8	0.2	3.1
PORTUNUS GIBBESII	--	0.3	--	--	--	0.2	--	0.6	--	0.2
PORTUNIDAE	--	--	0.1	--	--	--	0.5	0.4	--	0.2
ALBUNEA PARETII	--	--	0.5	8.7	0.4	3.5	1.1	0.2	<0.1	1.1
ALBUNEA SP	--	--	2.8	1.3	--	--	0.2	--	--	0.1
CRAB	0.3	0.7	0.8	0.7	4.2	3.6	5.8	4.7	7.6	5.2
SHRIMP	--	<0.1	<0.1	0.6	0.5	1.1	0.6	0.5	--	0.5
DECAPODA CRUSTACEA	--	1.6	2.5	12.6	2.1	1.5	1.9	0.8	0.9	1.8
STOMATOPODA	--	0.2	1.0	--	--	1.1	<0.1	<0.1	<0.1	0.1
PLATYSQUILLA ENODIS	--	0.2	0.7	--	--	--	--	--	--	<0.1
SQUILLA EMPUSA	--	--	--	--	--	1.1	<0.1	--	--	0.1
STOMATOPODA	--	--	0.3	--	--	<0.1	<0.1	<0.1	<0.1	<0.1
OTHER CRUSTACEA	8.3	5.6	18.0	6.2	7.4	1.8	1.5	1.5	1.6	2.1
MEROSTOMATA	--	--	--	<0.1	--	--	0.2	4.2	2.9	1.6
LIMULUS POLYPHEMUS	--	--	--	<0.1	--	--	0.2	4.3	2.9	1.6
MOLLUSCA	62.0	12.3	5.8	14.6	3.4	9.7	17.3	9.3	16.1	13.3
BIVALVIA	0.2	1.7	5.0	0.5	0.7	0.8	1.6	5.7	15.5	4.4
SOLENIDAE	--	--	--	--	--	0.4	0.2	2.9	1.2	1.1
BIVALVIA	0.2	1.7	5.0	0.5	0.7	0.4	1.4	2.8	14.3	3.3
GASTROPODA	--	1.2	--	--	<0.1	<0.1	<0.1	0.9	--	0.3

TABLE 3b. Stomach contents (%wt) by 10 cm length categories for smooth dogfish (continued).

Stomach Contents	<41	41-50	51-60	61-70	71-80	81-90	91-100	101-110	>110	Total
CEPHALOPODA	--	9.4	0.3	13.2	2.5	8.7	15.3	2.3	0.6	8.3
LOLIGO PEALEI	--	--	--	--	0.1	5.6	6.7	0.7	--	3.5
LOLIGO SP	--	8.7	--	--	0.3	2.1	6.5	<0.1	<0.1	3.0
ILLEX ILLECEBROSUS	--	--	--	--	--	0.1	0.4	0.4	0.2	0.2
CEPHALOPODA	--	0.7	0.3	13.2	2.1	0.9	1.7	1.1	0.3	1.6
OTHER MOLLUSCA	61.8	<0.1	0.5	0.9	3.2	--	0.4	0.4	0.3	0.3
ECHINODERMATA	--	--	4.6	--	--	--	0.7	<0.1	--	0.3
HOLOTHUROIDEA	--	--	4.6	--	--	--	0.7	<0.1	--	0.3
FISH	--	46.3	27.0	12.1	5.5	7.2	5.9	7.0	4.0	7.3
ETRUMEUS TERES	--	38.9	--	--	--	--	<0.1	--	<0.1	0.9
ANCHOA HEPSETUS	--	--	--	0.5	--	--	<0.1	0.4	--	0.1
ANCHOA MITCHILLI	--	--	--	--	<0.1	--	0.1	0.4	<0.1	0.2
GADIDAE	--	--	--	0.4	0.1	--	0.2	--	--	0.1
AMMODYTES AMERICANUS	--	--	--	--	--	0.2	0.3	0.1	0.2	0.2
LEIOSTOMUS XANTHURUS	--	--	--	--	--	1.1	--	--	--	0.1
STENOTOMUS CHRYSOPS	--	0.5	15.5	8.2	--	--	0.5	--	--	0.4
PEPRILUS TRIACANTHUS	--	5.6	--	--	--	<0.1	0.5	1.0	<0.1	0.6
PRIONOTUS CAROLINUS	--	--	--	--	<0.1	2.0	--	--	--	0.2
PLEURONECTIFORMES	--	--	--	--	--	--	0.5	--	0.3	0.2
PISCES	--	1.3	11.5	3.0	5.4	3.9	3.4	4.7	3.3	3.7
MISCELLANEOUS	5.2	1.8	1.4	2.3	6.2	2.9	1.3	1.1	2.1	1.7
Number of Stomachs Examined	7	53	41	35	56	111	237	101	47	688
Number of Empty Stomachs	2	0	2	0	1	6	5	4	1	21
Mean Stomach Content Weight (g)	1.827	10.050	3.845	10.120	15.664	24.148	37.699	63.250	62.196	33.228
Mean Fish Length (cm)	32	46	55	65	76	86	95	104	115	86

TABLE 4a. Stomach contents (%wt) by 10 cm length categories for spiny dogfish.

Stomach Contents	<31	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-110	Total
COELENTERATA	<0.1	2.1	1.5	1.4	1.2	1.4	0.6	2.4	0.6	1.5
SIPHONOPHORA	<0.1	1.9	0.4	0.4	0.3	0.6	<0.1	0.3	<0.1	0.3
CERIANTHARIA CERIANTHIDEA	--	--	--	--	<0.1	<0.1	<0.1	0.2	--	0.1
ANTHOZOA	--	--	--	--	--	--	0.2	1.8	0.5	0.8
COELENTERATA	--	0.2	1.1	0.9	0.9	0.8	0.2	<0.1	<0.1	0.3
CTENOPHORA	2.5	2.3	1.7	0.7	0.7	0.6	0.9	<0.1	--	0.5
POLYCHAETA	0.2	0.2	0.1	0.3	0.4	<0.1	0.1	0.1	3.3	0.1
TOMOPTERIS HELGOLANDICA	0.2	0.1	0.1	0.2	0.4	<0.1	<0.1	<0.1	--	0.1
POLYCHAETA	<0.1	0.1	--	0.1	<0.1	<0.1	0.1	<0.1	3.3	<0.1
SIPUNCULIDA	--	--	--	--	--	<0.1	0.3	0.2	0.2	0.2
CRUSTACEA	4.3	1.8	9.8	8.1	7.8	3.3	3.0	5.4	0.9	4.3
AMPHIPODA	1.5	<0.1	0.3	0.8	0.3	0.1	0.2	<0.1	<0.1	0.2
DECAPODA CRUSTACEA	1.7	<0.1	7.6	3.1	0.9	1.0	2.7	5.3	0.7	3.3
CANCER BOREALIS	--	--	--	--	<0.1	<0.1	0.8	0.9	--	0.6
CANCER IRRORATUS	0.6	--	6.7	0.2	0.3	0.2	1.1	3.5	0.6	1.8
PAGURUS SP	--	--	--	0.3	0.1	0.1	0.1	0.2	--	0.1
DICHELOPANDALUS LEPTOCERUS	0.4	--	0.6	--	0.4	<0.1	<0.1	<0.1	--	0.1
CRAB	--	--	--	0.6	<0.1	0.5	0.3	0.1	--	0.2
DECAPODA CRUSTACEA	0.7	<0.1	0.3	2.0	0.1	0.2	0.4	0.6	0.1	0.5
EUPHAUSIACEA	0.7	1.2	1.4	4.0	6.6	2.1	<0.1	<0.1	--	0.8
MEGANYCTIPHANES NORVEGICA	0.2	1.0	0.7	3.9	0.8	2.1	<0.1	<0.1	--	0.6
EUPHAUSIACEA	0.5	0.2	0.7	--	5.8	<0.1	--	--	--	0.2
OTHER CRUSTACEA	0.4	0.6	0.5	0.2	<0.1	0.1	0.1	0.1	0.2	<0.1
MOLLUSCA	19.4	50.7	36.3	52.7	16.6	28.5	27.4	23.7	25.0	26.7
BIVALVIA	<0.1	26.6	8.3	1.5	0.9	1.9	7.4	11.2	12.4	7.7
PECTEN SP	--	--	--	--	--	--	0.2	0.4	--	0.2
PECTINIDAE	--	26.6	8.3	1.5	--	--	3.5	5.7	12.4	4.0
BIVALVIA	<0.1	--	--	--	0.9	1.9	3.7	5.1	--	3.5
GASTROPODA	--	--	2.6	--	<0.1	2.8	<0.1	0.5	--	0.8
PTEROPODA	--	--	--	<0.1	<0.1	2.8	<0.1	--	--	0.6
GASTROPODA	--	--	2.6	--	--	<0.1	--	0.4	--	0.2
CEPHALOPODA	19.4	24.1	23.9	51.2	15.7	23.2	20.0	11.5	12.7	17.9
LOLIGO SP	--	--	--	4.8	5.2	3.4	2.6	3.3	8.9	3.4
ILLEX SP	--	--	--	4.5	3.0	7.2	6.5	4.1	--	5.2
DECAPODA SQUID	10.3	--	5.2	34.4	6.6	6.3	3.8	1.4	--	4.3
OCTOPODA	0.2	--	--	--	--	--	0.8	<0.1	--	0.3
CEPHALOPODA	8.9	24.1	18.7	7.5	0.9	6.1	6.3	2.7	3.8	4.7
OTHER MOLLUSCA	--	--	1.5	<0.1	--	0.6	--	0.5	--	0.3
CHAETOGNATHA	0.1	0.1	0.1	0.1	0.2	<0.1	<0.1	--	--	0.1
ECHINODERMATA	--	--	--	--	--	0.4	<0.1	0.4	--	0.2
UROCHORDATA-CHORDATA	4.6	0.7	1.1	3.0	4.3	0.5	<0.1	<0.1	--	0.4
SALPIDAE	--	0.1	0.8	2.8	0.5	0.2	<0.1	<0.1	--	0.1
UROCHORDATA-CHORDATA	4.6	0.6	0.3	0.2	3.8	0.3	--	--	--	0.3

TABLE 4b. Stomach contents (%wt) by 10 cm length categories for spiny dogfish (continued).

Stomach Contents	<31	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-110	Total
FISH	13.1	22.3	43.9	23.7	50.1	36.5	62.2	58.9	66.1	53.6
RAJIDAE	--	--	--	0.2	--	--	--	0.5	--	0.2
CONGRIDAE	--	--	--	--	--	--	--	0.3	--	0.1
OPHICHTHIDAE	--	--	--	--	--	--	--	1.2	--	0.5
BELONIDAE	--	--	--	--	8.1	--	--	--	--	0.3
ALOSA AESTIVALIS	--	--	--	--	--	--	3.3	--	--	0.9
ALOSA PSEUDOHARENGUS	--	--	--	--	--	1.7	--	4.3	--	2.0
CLUPEA HARENGUS	--	--	--	--	--	2.9	--	1.3	--	1.1
ETRUMEUS TERES	--	--	--	--	--	--	--	0.6	--	0.2
CLUPEIDAE	--	--	--	2.2	1.6	5.4	0.3	--	--	1.3
MELANOGRAMMUS AEGLEFINUS	--	--	--	--	--	--	1.9	--	--	0.5
MERLUCCIUS BILINEARIS	--	--	--	--	--	--	0.3	1.5	--	0.7
PHYCIS CHESTERI	--	--	--	--	--	--	--	1.0	--	0.4
UROPHYCIS CHUSS	--	--	--	--	--	--	4.3	1.5	--	1.8
UROPHYCIS SP	--	--	--	--	--	--	5.3	<0.1	--	1.5
GADIDAE	--	<0.1	--	<0.1	<0.1	3.8	2.0	--	<0.1	1.3
AMMODYTES AMERICANUS	--	--	--	0.1	2.6	2.4	0.6	6.4	2.0	3.4
ANARHICHAS SP	--	--	--	--	--	--	--	2.2	--	0.9
CARANGIDAE	--	--	--	--	--	--	--	1.4	--	0.5
COTTIDAE	--	--	--	--	0.4	--	0.9	<0.1	--	0.3
SCIAENIDAE	--	--	--	--	--	--	0.9	--	--	0.3
SCOMBER SCOMBRUS	--	--	--	--	--	--	6.3	--	--	1.8
STENOTOMUS CHRYSOPS	--	--	--	--	--	--	0.7	--	--	0.2
ASTROSCOPUS SP	--	--	--	--	--	--	--	0.9	--	0.4
PERCIFORMES	--	--	--	--	--	--	0.6	--	--	0.2
PARALICHTHYS DENTATUS	--	--	--	--	--	0.1	--	1.0	--	0.3
PARALICHTHYS SP	--	--	--	--	--	0.3	--	0.5	--	0.4
SCOPHTHALMUS AQUOSUS	--	--	--	--	--	--	0.3	0.6	--	0.3
SYMPHURUS SP	--	--	--	--	--	1.4	11.4	4.6	8.4	5.6
HIPPOGLOSSUS HIPPOGLOSSUS	--	--	3.6	--	--	--	--	--	--	0.1
LIMANDA FERRUGINEA	--	--	--	<0.1	--	--	--	0.4	--	0.2
PLEURONECTIFORMES	--	--	0.2	<0.1	<0.1	--	1.4	0.5	6.9	0.9
PISCES	13.1	22.3	40.1	21.2	37.4	18.1	21.3	27.6	48.6	25.0
MISCELLANEOUS	55.8	19.8	5.5	10.0	18.7	28.8	5.5	8.9	3.9	12.3
Number of Stomachs Examined	234	308	165	241	208	705	378	432	35	2706
Number of Empty Stomachs	128	187	104	125	102	363	159	117	8	1293
Mean Stomach Content Weight (g)	0.264	0.398	1.252	2.918	3.882	6.354	16.270	20.259	24.003	8.176
Mean Fish Length (cm)	27	34	45	55	66	75	85	94	103	67

TABLE 5a. Stomach contents (%wt) by 10 cm length categories for winter skate.

Stomach Contents	<31	31-40	41-50	51-60	61-70	71-80	81-90	>90	Total
POLYCHAETA	12.9	8.5	16.1	22.1	13.6	14.5	6.5	1.6	8.6
MALDANIDAE	0.1	0.8	1.7	<0.1	<0.1	<0.1	<0.1	--	0.1
LUMBRINERIS FRAGILIS	--	0.9	3.3	1.6	0.4	1.4	<0.1	<0.1	0.5
OPHELIA DENTICULATA	--	--	--	5.5	1.0	1.5	1.3	0.5	1.2
TRAVISIA SP	--	0.3	0.9	0.7	0.4	0.2	0.2	<0.1	0.3
OPHELIIDAE	1.8	1.1	0.7	0.1	1.8	0.9	<0.1	<0.1	0.2
APHRODITA HASTATA	3.0	--	--	--	--	--	0.7	0.2	0.3
AGLAOPHAMUS CIRCINATA	--	--	<0.1	<0.1	<0.1	0.5	--	--	0.1
NEPHTYS BUCERA	--	<0.1	0.5	1.7	4.7	3.1	0.7	0.4	1.7
NEPHTYS CAECA	--	--	--	--	0.4	0.8	<0.1	--	0.3
NEPHTYS DISCORS	--	--	--	--	--	1.0	0.3	--	0.3
NEPHTYS INCISA	--	--	--	--	<0.1	0.2	0.2	--	0.1
NEPHTYS LONGOSETOS	--	--	--	--	--	0.4	0.7	--	0.3
NEPHTYS PICTA	--	0.2	1.3	0.4	1.3	0.9	0.1	--	0.4
NEPHTYS SP	--	<0.1	1.4	4.1	0.6	1.2	0.4	0.2	0.7
NEPHTYIDAE	4.1	--	2.1	0.2	0.3	0.4	1.1	<0.1	0.6
NEREIS SUCCINEA	--	1.6	--	2.3	0.6	<0.1	<0.1	--	0.2
NEREIS SP	--	0.2	<0.1	0.4	0.1	0.2	<0.1	--	0.1
STHENELAIS LIMICOLA	--	--	0.4	0.9	0.4	0.4	<0.1	--	0.2
POLYCHAETA	3.9	3.4	3.8	4.2	1.6	1.4	0.8	0.3	1.0
SIPUNCULIDA	--	--	--	--	--	1.5	--	--	0.5
PHASCOLION STROMBI	--	--	--	--	--	1.4	--	--	0.4
SIPUNCULIDA	--	--	--	--	--	0.1	--	--	0.1
CRUSTACEA	86.0	79.0	66.5	31.3	7.5	6.7	3.0	0.8	7.1
AMPHIPODA	52.2	31.9	12.5	9.2	1.1	0.7	<0.1	<0.1	1.3
DECAPODA	27.6	40.0	45.4	16.6	4.6	4.5	2.4	0.7	4.6
CALLIANASSA ATLANTICA	--	--	--	--	0.8	0.7	--	--	0.3
CANCER IRRORATUS	20.1	24.0	7.1	1.2	2.0	1.0	1.7	0.3	1.7
CRANGON SEPTEMSPINOSUS	6.9	6.7	29.5	6.9	0.8	0.5	0.2	<0.1	1.2
PAGURUS ACADIANUS	--	0.2	0.1	4.3	0.1	0.7	<0.1	--	0.3
PAGURUS SP	0.5	6.7	0.4	0.1	0.1	0.1	0.1	--	0.1
DICHELOPANDALUS LEPTOCERUS	--	0.3	2.2	0.3	<0.1	0.3	<0.1	0.3	0.3
OVALIPES OCELLATUS	--	0.9	4.0	3.6	0.5	1.1	<0.1	--	0.5
DECAPODA CRUSTACEA	0.1	1.2	2.1	0.2	0.3	0.1	0.4	0.1	0.2
ISOPODA	5.5	3.4	4.4	4.4	1.5	1.2	0.2	<0.1	0.8
CIROLANA POLITA	0.2	1.3	3.9	2.7	0.3	0.6	0.1	--	0.4
CIROLANA SP	4.6	1.9	0.4	1.6	1.2	0.6	0.1	<0.1	0.4
ISOPODA	0.7	0.2	0.1	0.1	--	--	<0.1	--	<0.1
OTHER CRUSTACEA	0.7	3.7	4.2	1.1	0.1	0.3	0.4	<0.1	0.4

TABLE 5b. Stomach contents (%wt) by 10 cm length categories for winter skate.

Stomach Contents	<31	31-40	41-50	51-60	61-70	71-80	81-90	>90	Total
MOLLUSCA	0.4	4.8	5.0	10.9	12.4	25.1	22.7	1.7	15.9
BIVALVIA	0.4	4.8	4.6	10.7	10.5	16.7	9.4	0.7	8.9
PLACOPECTEN SP	--	--	--	--	--	1.1	--	--	0.3
SOLENIDAE	--	--	--	--	5.4	3.2	4.0	--	2.7
BIVALVIA	0.4	4.8	4.6	10.7	5.1	12.4	5.4	0.7	5.9
CEPHALOPODA	--	<0.1	0.2	--	1.9	8.2	13.3	1.0	6.9
ILLEX SP	--	--	--	--	1.9	7.2	12.1	1.0	6.3
CEPHALOPODA	--	<0.1	0.2	--	--	1.0	1.2	--	0.3
OTHER MOLLUSCA	--	--	0.2	0.2	<0.1	0.2	<0.1	--	<0.1
FISH	0.4	5.0	9.6	32.6	65.2	49.4	66.6	95.3	66.7
RAJA SENTA	--	--	--	--	--	--	1.1	--	0.4
RAJIDAE	--	--	--	--	0.5	0.2	--	--	0.1
GADUS MORHUA	--	--	0.4	--	--	--	--	--	0.1
MERLUCCIUS BILINEARIS	--	--	--	--	<0.1	0.2	--	10.4	2.7
GADIDAE	--	--	--	--	--	<0.1	3.1	7.1	2.9
AMMODYTES AMERICANUS	--	3.8	5.2	30.9	60.4	35.3	55.1	67.6	51.7
COTTIDAE	--	--	--	--	--	4.3	--	--	1.0
PLEURONECTIFORMES	--	<0.1	0.6	--	--	0.8	--	--	0.2
PISCES	0.4	1.1	3.4	1.7	4.3	8.5	7.4	10.2	7.6
MISCELLANEOUS	0.3	2.7	2.8	3.1	1.3	2.8	1.2	0.6	1.5
Number of Stomachs Examined	12	52	72	37	85	173	202	115	748
Number of Empty Stomachs	0	4	4	7	16	35	39	44	149
Mean Stomach Content Weight (g)	0.687	1.264	1.822	2.869	7.030	7.199	8.831	11.570	7.044
Mean Fish Length (cm)	24	36	45	55	66	76	84	95	72

TABLE 6. Stomach contents (%wt) by 5 cm length categories for Atlantic herring.

Stomach Contents	11-15	16-20	21-25	26-30	31-35	Total
CRUSTACEA	98.7	95.8	74.6	93.5	98.4	86.6
AMPHIPODA	1.2	8.5	1.1	5.0	--	3.5
PARATHEMISTO GAUDICHAUDII	--	--	0.3	4.7	--	2.8
PARATHEMISTO SP	--	0.1	0.6	0.2	--	0.4
HYPERIIDAE	1.2	8.4	0.2	0.1	--	0.3
DECAPODA CRUSTACEA	0.3	--	<0.1	0.5	--	0.3
DICHELOPANDALUS LEPTOCERUS	--	--	--	0.5	--	0.3
DECAPODA CRUSTACEA LARVAE	0.3	--	<0.1	<0.1	--	<0.1
EUPHAUSIACEA	83.5	43.2	51.3	82.1	--	69.0
EUPHAUSIA SP	--	--	0.9	--	--	0.3
MEGANYCTIPHANES NORVEGICA	1.5	10.3	30.2	80.4	--	56.8
THYSANOESSA RASCHII	81.9	--	8.5	1.7	--	6.5
EUPHAUSIACEA	0.1	32.9	11.7	--	--	5.4
COPEPODA	0.6	--	18.6	4.1	98.4	9.8
CALANOID COPEPOD	0.6	--	17.3	0.1	16.1	6.7
COPEPODA	--	--	1.3	4.0	82.3	3.1
OTHER CRUSTACEA	13.1	44.1	3.6	1.8	--	4.0
CHAETOGNATHA	--	--	12.3	4.0	--	6.9
MISCELLANEOUS	1.3	4.2	13.1	2.5	1.6	6.6
Number of Stomachs Examined	21	18	63	47	4	153
Number of Empty Stomachs	4	2	12	11	2	31
Mean Stomach Content Weight (g)	0.101	0.126	0.469	0.924	0.076	0.507
Mean Fish Length (cm)	13	17	23	27	31	23

TABLE 7. Stomach contents (%wt) by 5 cm length categories for silver hake.

Stomach Contents	1-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45	>45	Total
CRUSTACEA	93.2	96.1	93.5	97.2	63.9	66.5	67.1	57.1	26.1	4.9	28.9
AMPHIPODA	10.8	6.3	10.6	9.2	1.2	2.1	2.5	0.6	0.5	<0.1	0.8
AMPELISCIDAE	2.5	0.1	--	<0.1	0.2	0.2	0.2	<0.1	<0.1	--	0.1
GAMMARUS ANNULATUS	--	--	<0.1	--	--	--	1.0	0.4	0.4	<0.1	0.2
GAMMARIDAE	--	<0.1	0.6	1.0	<0.1	0.6	0.2	0.1	<0.1	--	0.1
PARATHEMISTO GAUDICHAUDII	2.2	2.4	5.1	5.0	<0.1	0.5	<0.1	<0.1	--	--	0.1
PARATHEMISTO SP	2.9	2.7	1.9	2.0	0.4	0.7	0.2	<0.1	<0.1	<0.1	0.1
AMPHIPODA	3.2	1.1	3.0	1.2	0.6	0.1	0.9	0.1	0.1	<0.1	0.2
DECAPODA CRUSTACEA	--	5.0	9.0	15.4	20.2	13.5	10.1	10.9	4.5	1.0	5.3
CRANGON SEPTEMSPINOSUS	--	4.6	4.0	0.3	1.9	2.8	2.0	2.5	0.8	0.8	1.4
DICHELOPANDALUS LEPTOCERUS	--	--	2.1	13.4	11.0	4.1	2.4	3.7	1.4	<0.1	1.7
PANDALUS BOREALIS	--	--	--	0.1	1.2	1.1	2.9	<0.1	0.3	0.1	0.5
PANDALUS MONTAGUI	--	--	--	--	2.8	0.7	<0.1	0.6	0.8	--	0.3
PANDALIDAE	--	<0.1	1.2	1.3	0.9	0.8	0.3	<0.1	1.2	--	0.3
PASIPHAEA MULTIDENTATA	--	--	--	--	--	1.2	1.3	3.7	--	--	0.7
DECAPODA CRUSTACEA	--	0.4	1.7	0.3	2.4	2.8	1.2	0.4	<0.1	0.1	0.4
EUPHAUSIACEA	66.3	66.8	60.0	67.3	39.1	48.2	51.8	45.2	20.8	3.7	21.9
MEGANYCTIPHANES NORVEGICA	38.0	45.3	43.5	61.2	37.5	44.5	51.7	43.5	20.8	3.7	21.2
NYCTIPHANES COUCHII	--	1.6	--	--	--	--	--	1.5	--	--	0.2
THYSANOESSA SP	17.9	11.6	0.9	1.1	--	--	--	0.2	--	--	0.1
EUPHAUSIACEA	10.4	8.3	15.6	5.0	1.6	3.7	0.1	<0.1	--	--	0.4
MYSIDACEA	3.9	10.1	3.9	2.2	0.4	0.9	1.4	<0.1	<0.1	<0.1	0.3
NEOMYSIS AMERICANA	--	3.8	2.6	0.7	<0.1	0.9	1.3	<0.1	<0.1	<0.1	0.2
MYSIDACEA	3.9	6.3	1.3	1.5	0.4	<0.1	0.1	<0.1	--	--	0.1
OTHER CRUSTACEA	12.2	7.9	9.8	3.1	3.0	1.8	1.3	0.4	0.4	0.2	0.6
MOLLUSCA	--	--	<0.1	--	--	3.4	<0.1	0.1	2.1	14.4	7.8
CEPHALOPODA	--	--	--	--	--	3.4	<0.1	0.1	2.1	14.4	7.7
LOLIGO SP	--	--	--	--	--	--	--	--	1.6	13.1	6.8
CEPHALOPODA	--	--	--	--	--	3.4	<0.1	0.1	0.5	1.3	0.9
OTHER MOLLUSCA	--	--	<0.1	--	--	<0.1	--	--	--	<0.1	0.1
FISH	--	2.6	5.8	2.6	35.9	29.6	32.5	42.7	70.8	80.5	63.0
CLUPEA HARENGUS	--	--	--	--	--	--	11.1	--	12.6	3.2	4.7
ETRUMEUS TERES	--	--	--	--	6.4	--	--	--	--	--	0.2
CLUPEIDAE	--	--	--	--	--	4.0	--	--	7.9	20.1	11.5
ANCHOA HEPSETUS	--	--	--	--	--	--	--	--	--	0.3	0.1
MERLUCCIUS BILINEARIS	--	--	--	0.3	0.9	5.8	2.1	4.9	9.4	10.2	7.8
GADIDAE	--	--	--	--	--	<0.1	--	0.4	--	<0.1	0.1
AMMODYTES AMERICANUS	--	--	0.7	--	24.5	18.6	4.3	11.6	22.7	7.0	10.5
SCOMBER SCOMBRUS	--	--	--	--	--	--	--	4.9	--	--	0.7
BOTHIDAE	--	--	--	--	--	--	--	3.3	--	--	0.5
PISCES	--	2.6	5.1	2.3	4.1	1.2	15.0	17.6	18.2	39.7	26.9
MISCELLANEOUS	6.8	1.3	0.6	0.2	0.2	0.4	0.4	0.1	1.0	0.2	0.3
Number of Stomachs Examined	33	164	455	294	274	329	380	256	72	76	2333
Number of Empty Stomachs	7	22	88	71	103	112	134	84	20	21	662
Mean Stomach Content Weight (g)	0.008	0.052	0.106	0.242	0.480	0.804	1.547	3.069	11.004	35.847	2.321
Mean Fish Length (cm)	4	7	13	17	23	28	33	37	42	52	24

TABLE 8a. Stomach contents (%wt) by 10 cm length categories for Atlantic cod.

Stomach Contents	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	>90	Total
COELENTERATA	--	--	--	2.4	<0.1	1.7	0.2	0.4	--	--	0.2
POLYCHAETA	1.1	0.8	10.5	2.7	2.9	1.1	1.3	0.4	4.4	2.8	2.6
APHRODITA HASTATA	--	--	9.4	0.4	0.3	<0.1	0.6	<0.1	1.5	2.4	1.4
APHRODITIDAE	--	--	--	--	--	<0.1	0.4	0.3	2.8	0.4	0.9
POLYCHAETA	1.1	0.8	1.1	2.3	2.6	1.1	0.3	0.1	0.1	--	0.3
ECHIURA	--	--	--	--	1.3	--	--	--	5.5	--	0.9
CRUSTACEA	84.0	78.4	44.2	45.8	49.5	42.3	32.3	35.4	18.5	10.8	21.4
AMPHIPODA	17.8	25.0	21.2	5.2	3.4	3.0	1.7	0.9	1.0	0.3	1.3
UNCIOLA IRRORATA	0.6	7.6	3.9	1.1	0.9	<0.1	<0.1	0.7	<0.1	<0.1	0.2
GAMMARUS ANNULATUS	--	--	0.9	--	--	<0.1	0.8	0.2	0.9	0.2	0.4
GAMMARIDAE	0.6	<0.1	1.5	0.2	0.2	0.7	0.1	<0.1	<0.1	--	0.1
PARATHEMISTO SP	<0.1	--	2.1	0.8	--	1.8	0.7	--	--	--	0.2
LEPTOCHEIRUS PINGUIS	1.0	14.6	5.4	1.2	1.1	0.2	<0.1	<0.1	--	--	0.1
AMPHIPODA	15.6	2.8	7.4	1.9	1.2	0.3	0.1	--	0.1	--	0.1
DECAPODA CRUSTACEA	7.6	34.2	19.6	34.4	33.1	30.4	25.6	32.3	17.4	10.2	18.0
AXIUS SERRATUS	--	--	--	1.6	0.1	0.2	--	3.7	--	<0.1	0.5
CANCER BOREALIS	--	--	--	1.3	3.6	8.4	5.0	6.9	--	4.6	4.3
CANCER IRRORATUS	<0.1	--	2.0	7.2	9.2	9.2	7.9	6.7	16.3	2.3	6.3
CANCER SP	--	2.0	<0.1	--	0.1	0.6	3.2	2.4	--	--	0.6
CRANGON SEPTEMSPINOSUS	<0.1	8.4	10.6	6.0	1.0	0.6	0.1	<0.1	<0.1	<0.1	0.3
EUALUS PUSIOLUS	1.8	<0.1	0.6	0.4	1.4	0.8	<0.1	<0.1	--	--	0.1
HYAS COARCTATUS	--	23.8	2.8	2.3	4.0	2.8	1.5	5.9	--	0.2	1.3
HYAS SP	--	--	--	0.5	2.1	--	1.6	0.2	--	--	0.2
PAGURUS ACADIANUS	--	--	0.2	1.8	1.6	1.1	2.0	0.9	0.7	--	0.6
PAGURUS SP	1.0	--	0.4	1.1	--	1.7	0.2	0.3	--	--	0.2
DICHELOPANDALUS LEPTOCERUS	0.6	--	1.2	1.8	4.8	0.7	0.4	0.7	<0.1	0.2	0.5
PANDALUS BOREALIS	--	--	--	0.3	1.3	2.1	2.9	0.6	0.1	--	0.5
CRAB	0.6	--	<0.1	4.3	0.5	<0.1	0.4	3.9	0.2	0.4	0.8
SHRIMP	2.0	--	1.3	1.2	1.3	0.3	0.1	0.1	--	2.4	0.1
DECAPODA CRUSTACEA	1.6	--	0.5	4.6	2.1	1.9	0.3	<0.1	0.1	0.1	1.7
EUPHAUSIACEA	0.3	4.1	0.3	2.4	6.3	6.4	2.1	<0.1	<0.1	<0.1	0.9
MEGANYCTIPHANES NORVEGICA	0.3	4.1	<0.1	2.4	6.3	6.4	2.1	<0.1	<0.1	<0.1	0.9
EUPHAUSIACEA	--	--	0.2	--	--	<0.1	--	--	--	--	<0.1
OTHER CRUSTACEA	58.3	15.1	3.1	3.8	6.7	2.5	2.9	2.4	0.1	0.3	1.1
MOLLUSCA	--	17.4	<0.1	2.7	5.8	9.6	23.1	40.0	27.5	5.4	14.9
BIVALVIA	--	16.9	--	<0.1	1.5	0.2	1.3	3.4	1.0	<0.1	0.8
PECTEN SP	--	--	--	--	--	--	--	3.2	--	--	0.4
PLACOPECTEN SP	--	--	--	--	--	--	--	--	0.9	--	0.2
BIVALVIA	--	16.9	--	<0.1	1.5	0.2	1.3	0.2	0.1	<0.1	0.2
GASTROPODA	--	--	<0.1	2.4	0.1	2.5	0.4	--	<0.1	<0.1	0.3

TABLE 8b. Stomach contents (%wt) by 10 cm length categories for Atlantic cod (continued).

Stomach Contents	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	>90	Total
CEPHALOPODA	--	--	--	--	--	4.6	19.4	32.6	23.9	5.3	12.3
LOLIGO SP	--	--	--	--	--	--	--	11.1	3.5	--	1.9
ILLEX ILLECEBROSUS	--	--	--	--	--	--	7.0	14.5	20.0	5.3	8.2
OCTOPODA	--	--	--	--	--	3.7	--	--	--	<0.1	0.3
CEPHALOPODA	--	--	--	--	--	0.9	12.4	7.0	0.4	<0.1	1.9
OTHER MOLLUSCA	--	0.5	<0.1	0.3	4.2	2.3	2.0	4.0	2.6	0.1	1.4
ECHINODERMATA	--	--	1.9	0.7	5.6	4.4	1.7	2.2	0.4	0.3	1.2
OPHIUROIDEA	--	--	1.9	0.5	5.3	3.6	1.7	0.4	--	<0.1	0.7
OPHIOPHOLIS ACULEATA	--	--	1.9	0.3	5.0	2.9	0.7	--	--	--	0.5
OPHIUROIDEA	--	--	<0.1	0.2	0.3	0.7	1.0	0.4	--	<0.1	0.2
HOLOTHUROIDEA	--	--	--	--	0.3	0.8	--	1.8	0.4	0.2	0.4
MOLPADIA MUSCULUS	--	--	--	--	--	--	--	1.8	--	--	0.2
HOLOTHUROIDEA	--	--	--	--	0.3	0.8	--	--	0.4	0.2	0.2
OTHER ECHINODERMATA	--	--	--	0.2	<0.1	<0.1	--	--	--	0.1	<0.1
FISH	--	2.4	40.1	39.2	24.8	36.4	38.1	20.2	41.4	79.6	56.7
RAJA SP	--	--	--	--	--	--	--	--	--	0.4	0.2
RAJIDAE	--	--	--	--	--	0.8	--	--	--	0.5	0.3
SQUALUS ACANTHIAS	--	--	--	--	--	--	--	--	--	9.2	4.6
CLUPEIDAE	--	--	--	--	--	--	4.4	9.7	--	8.6	5.9
ENCHELYOPUS CIMBRIUS	--	--	--	--	--	--	--	--	0.5	0.2	0.2
GADUS MORHUA	--	--	--	--	--	--	--	--	--	8.2	4.1
MERLUCCIUS BILINEARIS	--	--	--	17.2	--	4.1	--	--	--	8.2	4.7
GADIDAE	--	--	--	--	0.8	15.0	0.3	--	--	--	1.2
AMMODYTES AMERICANUS	--	--	--	10.8	11.1	7.2	16.5	4.4	23.5	9.6	11.5
MACROZOARCES AMERICANUS	--	--	--	--	--	--	--	--	1.8	4.6	2.6
SCOPHTHALMUS AQUOSUS	--	--	--	--	--	--	3.6	1.0	--	3.1	2.0
BOTHIDAE	--	--	--	--	--	--	--	--	--	6.2	3.1
LIMANDA FERRUGINEA	--	--	0.4	--	--	--	--	--	--	--	0.1
PSEUDOPLEURONECTES AMERICA	--	--	--	0.2	--	--	--	--	--	2.3	1.1
PLEURONECTIFORMES	--	--	0.2	0.6	--	--	--	--	--	6.8	3.4
FISH EGGS OTHER THAN SKATE	--	--	--	--	0.8	<0.1	--	--	--	--	0.1
FISH LARVAE	--	--	<0.1	<0.1	--	--	--	--	--	0.3	0.1
PISCES	--	2.4	39.5	10.4	12.1	9.3	13.3	5.1	15.6	11.4	11.5
MISCELLANEOUS	14.9	1.0	3.3	6.5	10.1	4.5	3.3	1.4	2.3	0.9	2.1
Number of Stomachs Examined	310	19	82	73	80	109	87	52	39	53	904
Number of Empty Stomachs	12	1	4	1	3	5	4	4	3	2	39
Mean Stomach Content Weight (g)	0.062	0.608	2.380	3.302	5.742	12.096	15.849	39.021	67.607	156.557	18.348
Mean Fish Length (cm)	6	18	25	35	45	55	65	75	85	102	38

TABLE 9a. Stomach contents (%wt) by 10 cm length categories for haddock.

Stomach Contents	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	Total
COELENTERATA	2.4	--	0.3	<0.1	<0.1	0.5	2.1	<0.1	--	0.7
METRIDIUM SENILE	--	--	--	--	--	0.2	1.9	--	--	0.5
ANTHOZOA	--	--	0.2	<0.1	<0.1	0.2	0.2	<0.1	--	0.1
COELENTERATA	2.4	--	0.1	--	--	0.1	1.0	<0.1	--	0.1
POLYCHAETA	2.6	20.6	7.7	14.8	17.9	25.3	6.0	8.4	0.2	13.4
MALDANIDAE	--	1.8	0.4	0.4	0.3	<0.1	<0.1	<0.1	<0.1	0.1
EUNICE PENNATA	--	--	0.2	<0.1	0.3	<0.1	0.2	<0.1	--	0.1
LUMBRINERIDAE	--	1.0	<0.1	0.3	0.2	0.3	<0.1	0.2	--	0.1
ONUPHIS SP	--	--	--	--	<0.1	0.3	0.2	--	<0.1	0.1
OPHELINA ACUMINATA	--	--	--	--	<0.1	2.7	--	--	--	0.8
APHRODITA HASTATA	--	--	--	--	0.4	0.4	0.7	0.5	--	0.4
OPHIOGLYCERA GIGANTEA	--	--	--	--	--	--	--	0.8	--	0.2
NEPHTYS INCISA	--	--	<0.1	<0.1	0.1	0.2	0.4	0.4	--	0.2
NEPHTYIDAE	--	2.7	0.1	<0.1	1.9	0.1	0.1	0.2	<0.1	0.3
CHONE INFUNDIBULIFORMIS	--	--	--	--	--	0.4	--	--	--	0.1
SPIONIDAE	--	0.5	0.3	1.4	1.2	2.1	<0.1	0.3	--	0.8
MELINNA CRISTATA	--	--	--	<0.1	<0.1	1.2	--	--	--	0.4
TEREBELLIDAE	--	1.0	0.2	<0.1	0.1	0.2	0.3	<0.1	--	0.1
POLYCHAETA TUBES	0.7	5.4	4.3	5.0	5.9	9.6	1.3	1.3	--	4.4
POLYCHAETA	1.9	8.2	2.2	7.7	7.5	7.8	2.8	4.7	0.2	5.5
CRUSTACEA	57.3	47.5	12.2	32.6	28.4	15.1	14.1	3.5	61.5	18.3
AMPHIPODA	32.7	17.5	6.5	18.3	9.4	9.9	6.2	0.8	0.3	6.8
UNCIOLA INERMIS	--	--	<0.1	0.5	<0.1	<0.1	0.9	<0.1	--	0.3
UNCIOLA IRRORATA	0.2	5.5	2.0	8.9	3.1	3.3	1.4	0.4	--	2.2
GAMMARIDAE	2.4	3.2	1.6	2.5	<0.1	1.8	0.4	0.1	<0.1	0.8
PARATHEMISTO GAUDICHAUDII	1.2	--	--	--	--	<0.1	1.1	<0.1	--	0.3
PARATHEMISTO SP	0.7	0.4	<0.1	<0.1	0.3	2.2	1.7	<0.1	<0.1	1.1
OEDICEROTIDAE	--	<0.1	<0.1	2.7	3.7	<0.1	<0.1	<0.1	--	0.5
LEPTOCHEIRUS PINGUIS	--	5.2	1.2	0.6	0.4	2.3	0.5	<0.1	--	1.0
AMPHIPODA	28.2	3.2	1.7	3.1	1.9	0.3	0.2	0.3	0.3	0.7
DECAPODA CRUSTACEA	2.6	4.2	3.5	6.7	4.0	3.9	1.6	2.1	--	2.8
AXIUS SERRATUS	--	--	--	--	0.2	0.3	--	0.4	--	0.2
CRANGON SEPTEMSPINOSUS	--	2.3	0.9	0.9	0.6	<0.1	--	<0.1	--	0.2
HYAS COARCTATUS	--	--	--	0.2	0.2	--	0.4	0.1	--	0.1
HYAS SP	--	--	--	--	0.8	0.1	--	--	--	0.1
PAGURUS PUBESCENS	--	--	--	0.3	<0.1	0.6	0.2	0.5	--	0.3
PAGURUS SP	--	<0.1	<0.1	1.1	0.5	0.3	0.1	0.1	--	0.1
DICHELOPANDALUS LEPTOCERUS	--	0.5	2.5	0.5	0.7	0.3	<0.1	--	--	0.3
PANDALUS BOREALIS	--	--	--	1.1	--	0.5	<0.1	0.2	--	0.2
PANDALUS MONTAGUI	--	--	--	0.3	--	0.4	--	--	--	0.1
DECAPODA CRUSTACEA	2.6	1.4	0.1	2.3	1.0	1.4	0.9	0.8	--	1.2
ISOPODA	--	1.7	<0.1	0.3	0.2	0.2	<0.1	<0.1	--	0.1
EUPHAUSIACEA	--	--	0.6	6.3	13.4	0.8	6.1	0.4	61.2	8.0
MEGANYCTIPHANES NORVEGICA	--	--	0.6	6.3	13.4	0.8	6.1	0.1	61.2	8.0
EUPHAUSIACEA	--	--	--	<0.1	<0.1	<0.1	<0.1	0.2	--	<0.1
OTHER CRUSTACEA	22.0	24.3	1.6	1.0	1.4	0.3	0.2	0.2	--	0.5

TABLE 9b. Stomach contents (%wt) by 10 cm length categories for haddock (continued).

Stomach Contents	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	Total
MOLLUSCA	--	3.5	0.7	8.4	4.9	6.4	1.9	5.2	<0.1	4.3
BIVALVIA	--	3.1	0.7	5.3	2.6	5.0	1.2	0.4	<0.1	2.4
YOLDIA SP	--	0.3	0.3	0.8	0.7	1.6	--	--	--	0.6
CERASTODERMA PINNULATUM	--	1.8	0.4	3.7	<0.1	1.4	0.4	--	--	0.7
BIVALVIA	--	1.0	<0.1	0.8	1.9	2.0	0.8	0.1	<0.1	1.1
GASTROPODA	--	<0.1	--	2.9	0.6	0.4	0.3	0.1	<0.1	0.4
CEPHALOPODA	--	--	--	<0.1	1.5	0.3	--	4.7	--	1.1
OTHER MOLLUSCA	--	0.3	--	0.2	0.2	0.8	0.4	--	--	0.4
ECHINODERMATA	--	0.7	4.6	18.4	28.4	32.7	56.6	71.4	34.2	43.6
ECHINOIDEA	--	0.4	<0.1	2.7	0.9	1.9	1.1	2.4	--	1.5
STRONGYLOCENTROTUS DROBACH	--	--	<0.1	1.3	0.4	0.8	0.7	0.4	--	0.6
ECHINARACHNIUS PARMA	--	0.4	<0.1	1.4	0.4	1.1	--	<0.1	--	0.4
ECHINOIDEA	--	--	<0.1	--	0.1		0.4	2.0	--	0.5
OPHIUROIDEA	--	0.1	2.7	12.5	22.0	27.0	46.5	65.4	33.8	37.2
AMPHIURA SP	--	--	--	--	--	1.8	--	10.0	--	2.3
OPHIACANTHA BIDENTATA	--	--	--	--	--	0.6	--	--	--	0.2
OPHIOPHOLIS ACULEATA	--	--	<0.1	5.9	6.9	6.5	19.3	2.5	--	8.3
OPHIURA SARSI	--	--	1.0	3.5	8.8	8.5	14.3	27.0	33.4	14.7
OPHIURA SP	--	--	0.5	0.4	0.1	1.3	4.1	16.1	--	4.3
OPHIUROIDEA	--	0.1	1.2	2.7	6.2	8.3	8.8	9.8	0.4	7.4
HOLOTHUROIDEA	--	--	--	--	0.7	1.1	2.3	0.6	--	1.1
HAVELOCKIA SCABRA	--	--	--	--	--	--	1.4	--	--	0.4
HOLOTHUROIDEA	--	--	--	--	0.7	1.1	0.9	0.6	--	0.7
OTHER ECHINODERMATA	--	0.2	1.9	3.2	4.8	2.7	6.5	3.0	0.4	3.8
FISH	--	0.6	68.3	<0.1	0.2	<0.1	<0.1	<0.1	--	2.9
AMMODYTES AMERICANUS	--	--	61.6	--	<0.1	--	--	--	--	2.6
PISCES	--	0.6	6.7	<0.1	0.2	<0.1	<0.1	<0.1	--	0.3
MISCELLANEOUS	37.7	27.1	6.2	25.6	20.2	19.8	19.1	11.3	3.9	16.8
Number of Stomachs Examined	16	124	77	117	157	251	145	60	9	956
Number of Empty Stomachs	0	5	0	5	4	5	3	0	0	22
Mean Stomach Content Weight (g)	0.026	0.128	2.023	1.473	2.254	4.382	6.608	11.203	30.498	3.873
Mean Fish Length (cm)	8	16	25	36	45	55	64	75	83	46

TABLE 10a. Stomach contents (%wt) by 5 cm length categories for red hake.

Stomach Contents	1-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45	>45	Total
COELENTERATA	--	--	--	--	<0.1	<0.1	0.2	0.8	<0.1	0.7	0.4
POLYCHAETA	--	0.3	5.4	0.7	1.7	3.5	2.4	2.8	2.0	3.2	2.6
APHRODITIDAE	--	--	--	--	--	0.7	<0.1	0.1	0.3	0.4	0.2
NEPHTYIDAE	--	--	--	--	<0.1	0.5	0.2	0.1	<0.1	1.0	0.3
PHYLLODOCIDAE	--	--	--	--	--	--	0.1	0.1	0.1	0.1	0.1
TEREBELLIDAE	--	--	--	--	--	<0.1	<0.1	0.7	<0.1	<0.1	0.1
POLYCHAETA	--	0.3	5.4	0.7	1.7	2.3	2.1	1.8	1.6	1.7	1.9
CRUSTACEA	87.9	89.8	81.7	59.0	75.3	86.4	71.8	65.5	66.8	45.1	63.6
AMPHIPODA	61.9	56.6	44.7	35.6	10.4	16.2	4.8	3.1	1.2	0.8	4.0
AEGININA LONGICORNIS	--	--	2.4	--	0.5	0.9	0.2	<0.1	<0.1	<0.1	0.1
AMPELISCIDAE	--	0.1	<0.1	0.2	0.3	0.2	0.2	0.1	0.1	<0.1	0.1
CAPRELLIDAE	--	1.3	--	--	0.2	<0.1	0.2	0.1	<0.1	<0.1	0.1
UNCIOLA INERMIS	3.3	1.5	0.5	--	0.6	0.8	0.1	0.3	<0.1	<0.1	0.2
UNCIOLA IRRORATA	--	0.8	1.2	2.5	1.9	1.2	0.4	0.3	<0.1	<0.1	0.3
COROPHIIDAE	0.8	1.1	0.6	0.1	0.1	0.2	0.2	0.1	0.1	<0.1	0.1
GAMMARUS ANNULATUS	--	--	<0.1	0.4	--	<0.1	0.1	0.3	--	--	0.1
GAMMARIDAE	5.4	2.4	0.8	1.0	1.0	0.7	0.8	0.1	0.1	0.1	0.1
PARATHEMISTO GAUDICHAUDII	--	1.3	--	1.3	1.0	0.7	<0.1	<0.1	0.1	--	0.1
PARATHEMISTO SP	1.3	4.8	0.2	3.3	0.8	0.3	<0.1	0.2	0.3	--	0.2
LYSIANASSIDAE	--	--	--	0.1	0.1	0.2	0.3	0.3	0.1	0.4	0.1
LEPTOCHEIRUS PINGUIS	32.2	1.8	11.5	0.3	2.1	10.4	2.0	1.3	0.4	0.2	1.6
PONTOGENEIA INERMIS	15.9	36.4	21.9	25.4	0.7	<0.1	<0.1	<0.1	--	--	0.4
AMPHIPODA	3.0	5.1	5.6	1.0	1.1	0.6	0.3	<0.1	<0.1	0.1	0.5
DECAPODA CRUSTACEA	8.4	16.4	29.1	8.8	45.7	30.1	30.6	25.1	23.8	22.8	26.0
AXIUS SERRATUS	--	--	--	--	--	2.0	<0.1	0.9	--	0.4	0.4
NAUSHONIA CRANGONOIDES	--	--	--	--	--	--	--	0.7	--	--	0.2
AXIIDAE	--	--	--	--	--	1.9	<0.1	<0.1	1.0	--	0.3
CANCER BOREALIS	--	--	--	--	<0.1	<0.1	--	1.9	--	1.5	0.8
CANCER IRRORATUS	--	--	--	--	1.7	1.5	4.9	6.0	5.0	4.9	4.8
CANCRIDAE	--	0.4	--	--	1.3	<0.1	0.1	0.7	0.1	0.2	0.3
CRANGON SEPTEMSPINOSUS	7.5	1.7	8.8	3.3	23.4	3.4	2.5	1.6	2.6	1.3	2.7
PONTOPHILUS NORVEGICUS	--	--	--	--	--	--	0.5	--	--	0.1	0.1
CRANGONIDAE	--	1.8	<0.1	--	0.5	1.9	0.1	0.2	<0.1	--	0.2
HYAS COARCTATUS	--	--	--	--	--	0.8	--	--	0.1	0.1	0.1
PAGURUS ACADIANUS	--	--	--	--	--	--	1.7	0.5	0.5	1.7	1.0
PAGURUS LONGICARPUS	--	--	19.4	--	<0.1	<0.1	<0.1	--	0.4	--	0.2
PAGURUS PUBESCENS	--	--	--	--	--	0.1	0.5	--	--	--	0.1
PAGURUS ARCUATUS	--	--	--	--	--	--	0.8	0.4	--	--	0.2
PAGURUS SP	0.8	--	--	--	<0.1	0.2	1.0	0.7	0.5	0.4	0.5
DICHELOPANDALUS LEPTOCERUS	--	--	--	2.2	15.5	13.9	12.6	6.5	9.6	3.1	8.2
PANDALUS BOREALIS	--	--	--	0.2	1.6	--	--	0.6	0.4	7.1	2.0
PANDALUS MONTAGUI	--	--	--	1.1	--	0.3	<0.1	0.4	0.2	--	0.2
PANDALIDAE	--	--	--	--	0.7	1.7	2.5	0.9	2.7	0.8	1.6
PASIPHAEA MULTIDENTATA	--	--	--	--	--	--	0.5	0.6	0.1	0.2	0.3
CRAB	--	--	--	0.2	<0.1	0.4	0.2	0.2	0.2	<0.1	0.1
SHRIMP	--	11.7	--	<0.1	0.6	0.8	0.7	0.9	0.2	0.3	0.4
DECAPODA CRUSTACEA	0.1	0.8	0.9	1.8	0.4	1.2	2.0	1.4	0.2	0.7	1.5

TABLE 10b. Stomach contents (%wt) by 5 cm length categories for red hake (continued).

Stomach Contents	1-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45	>45	Total
EUPHAUSIACEA	8.8	4.0	1.0	9.3	15.4	34.6	32.2	34.2	39.9	18.9	30.4
MEGANYCTIPHANES NORVEGICA	--	3.0	0.4	9.3	13.7	32.9	31.2	33.4	36.5	18.4	29.0
EUPHAUSIACEA	8.8	1.0	0.6	--	1.7	1.7	1.0	0.8	3.5	0.5	1.4
OTHER CRUSTACEA	8.8	12.8	6.9	5.3	3.8	5.5	4.2	3.1	1.9	2.6	2.9
MOLLUSCA	--	--	--	1.6	<0.1	0.9	6.0	16.6	4.7	10.0	8.7
BIVALVIA	--	--	--	1.6	<0.1	0.8	0.3	5.2	0.3	2.7	2.1
CEPHALOPODA	--	--	--	--	--	<0.1	5.6	10.9	1.4	7.3	5.7
DECAPODA SQUID	--	--	--	--	--	--	--	3.0	--	5.6	2.1
OCTOPODA	--	--	--	--	--	--	--	--	0.1	1.5	0.4
CEPHALOPODA	--	--	--	--	--	<0.1	5.6	7.9	1.3	0.2	3.3
OTHER MOLLUSCA	--	--	--	--	--	0.1	0.1	0.5	3.0	<0.1	0.9
ECHINODERMATA	--	--	--	0.1	0.3	0.2	<0.1	0.4	0.1	0.8	0.4
OPHIUROIDEA	--	--	--	0.1	--	--	0.1	0.2	<0.1	0.8	0.3
HOLOTHUROIDEA	--	--	--	0.1	0.3	0.2	--	0.1	<0.1	--	0.1
ECHINODERMATA	--	--	--	--	--	--	<0.1	0.1	--	--	0.1
FISH	--	<0.1	9.7	37.7	21.5	7.4	17.5	11.2	24.3	36.1	21.7
RAJIDAE	--	--	--	--	--	--	--	--	--	1.0	0.3
MELANOGRAMMUS AEGLEFINUS	--	--	--	--	--	--	--	--	0.3	4.3	1.1
MERLUCCIUS BILINEARIS	--	--	--	30.7	19.7	1.0	4.7	--	--	16.8	5.9
GADIDAE	--	--	--	--	--	--	1.4	4.7	2.9	--	2.0
AMMODYTES AMERICANUS	--	--	--	1.8	--	6.0	6.2	2.0	1.2	2.4	2.9
COTTIDAE	--	--	--	--	--	0.2	--	--	--	0.4	0.1
SCOMBER SCOMBRUS	--	--	--	--	--	--	--	0.6	--	0.6	0.3
LYCENCHELYS VERRILLI	--	--	--	--	--	--	--	0.2	--	1.0	0.3
BOTHIDAE	--	--	--	--	--	--	--	0.2	--	1.4	0.4
PISCES	--	<0.1	9.7	5.2	1.8	0.2	5.2	3.5	19.9	8.2	8.4
MISCELLANEOUS	12.1	9.9	3.2	0.9	1.2	1.7	2.3	3.5	1.9	4.8	2.7
Number of Stomachs Examined	25	78	48	55	89	216	346	345	176	111	1489
Number of Empty Stomachs	3	8	13	16	16	39	92	79	52	19	337
Mean Stomach Content Weight (g)	0.010	0.044	0.214	0.555	0.944	0.865	1.596	2.054	3.817	6.595	2.001
Mean Fish Length (cm)	4	7	12	18	23	28	33	37	42	49	32

TABLE 11a. Stomach contents (%wt) by 5 cm length categories for winter flounder.

Stomach Contents	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	>50	Total
PORIFERA	—	—	—	0.4	—	—	—	—	0.4	0.2	0.1
POLYCHAETA	68.8	83.1	52.4	41.9	47.2	50.0	44.4	25.9	29.3	13.4	35.5
CLYMENELLA TORQUATA	—	—	—	0.6	0.5	<0.1	<0.1	<0.1	<0.1	0.3	0.2
MALDANIDAE	18.8	4.3	4.8	0.6	0.6	0.9	0.5	0.3	0.1	<0.1	0.6
LUMBRINERIS FRAGILIS	5.3	0.4	0.3	3.7	2.8	2.0	1.0	1.7	2.3	2.4	2.0
LUMBRINERIS TENUIS	—	—	—	<0.1	<0.1	0.2	0.2	<0.1	—	0.2	0.1
LUMBRINERIS SP	—	—	<0.1	1.4	0.8	3.3	0.2	0.5	<0.1	0.4	0.8
NINOE NIGRIPES	—	0.3	1.0	0.1	0.3	0.2	<0.1	0.2	—	<0.1	0.1
LUMBRINERIDAE	—	0.3	0.5	0.9	0.7	0.7	<0.1	<0.1	0.5	—	0.3
DIOPATRA CUPREA	—	—	—	—	0.8	0.2	—	—	—	—	0.1
DIOPATRA SP	—	—	—	—	2.9	0.6	4.0	—	—	—	1.1
PHERUSA AFFINIS	—	<0.1	—	1.8	3.1	3.1	1.5	3.1	0.1	0.2	1.8
PHERUSA SP	—	<0.1	12.8	6.0	0.5	0.7	0.1	<0.1	0.1	—	0.6
FLABELLIGERIDAE	—	0.4	2.6	1.0	1.4	1.2	0.3	<0.1	<0.1	0.4	0.5
OPHELIIDAE	—	—	—	0.3	0.2	0.1	<0.1	—	—	—	0.1
SCALIBREGMA INFLATUM	—	—	—	<0.1	1.9	<0.1	0.1	<0.1	—	—	0.3
PARAONIDAE	—	—	—	<0.1	0.3	—	0.1	0.5	—	—	0.1
GONIADIDAE	—	—	—	—	0.4	1.2	—	—	—	0.1	0.2
AGLAOPHAMUS CIRCINATA	—	—	—	—	2.4	—	—	—	—	—	0.3
NEPHTYS INCISA	—	—	—	<0.1	1.6	<0.1	0.2	<0.1	—	0.5	0.3
NEPHTYS SP	—	—	2.1	0.4	1.0	0.5	0.5	0.6	<0.1	0.4	0.4
NEPHTYIDAE	—	1.7	<0.1	0.6	0.2	0.3	<0.1	0.2	0.1	—	0.2
NEREIS SP	5.3	—	3.6	<0.1	0.1	0.5	<0.1	0.4	0.3	<0.1	0.3
NEREIDAE	—	—	—	<0.1	<0.1	<0.1	0.7	<0.1	0.7	<0.1	0.3
PHYLLODOCE MACULATA	—	<0.1	—	<0.1	0.4	0.1	1.1	0.2	<0.1	<0.1	0.3
PHYLLODOCE MUCOSA	1.2	—	<0.1	0.4	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	0.1
PHYLLODOCIDAE	—	0.1	<0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.4	0.2
CHONE INFUNDIBULIFORMIS	—	—	—	4.7	3.1	2.9	0.9	2.0	<0.1	<0.1	1.5
SABELLIDAE	12.1	2.7	<0.1	1.6	2.2	7.6	0.2	<0.1	<0.1	<0.1	1.7
CIRRATULIDAE	—	<0.1	<0.1	0.2	1.0	0.1	<0.1	<0.1	—	—	0.1
SPIOPHANES BOMBYX	—	<0.1	0.3	<0.1	0.8	0.3	5.0	6.8	5.7	5.5	4.0
SPIONIDAE	—	1.9	—	<0.1	0.8	0.7	0.9	0.6	1.5	—	0.9
AMPHARETE ACUTIFRONS	—	0.9	<0.1	2.0	2.8	<0.1	0.2	<0.1	<0.1	<0.1	0.5
AMPHARETE ARCTICA	—	8.6	2.8	0.9	1.8	2.0	0.9	0.2	0.4	<0.1	0.9
ASABELLIDES OCULATA	—	47.0	0.1	<0.1	2.6	13.1	12.5	0.4	<0.1	—	5.0
AMPHARETIDAE	8.8	0.9	1.3	1.5	0.5	0.9	0.2	<0.1	<0.1	<0.1	0.3
TRICHOBRANCHUS GLACIALIS	14.1	7.0	6.2	3.5	—	<0.1	—	—	—	—	0.3
TEREBELLIDAE	—	<0.1	0.9	1.1	0.5	0.4	1.4	0.5	2.0	0.5	0.9
POLYCHAETA	3.2	6.6	13.1	8.5	8.1	6.1	11.4	7.6	15.4	0.3	7.9
SIPUNCULIDA	—	<0.1	—	<0.1	0.5	0.9	—	—	—	—	0.2

TABLE 11b. Stomach contents (%wt) by 5 cm length categories for winter flounder (continued).

Stomach Contents	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	>50	Total
CRUSTACEA	20.0	11.7	19.6	24.0	11.9	12.0	8.3	7.4	2.9	1.4	8.0
AMPHIPODA	18.5	9.6	15.3	19.4	10.6	9.9	7.9	6.3	1.8	1.0	6.8
AMPELISCA AGASSIZI	--	--	<0.1	0.5	0.2	0.4	<0.1	<0.1	<0.1	--	0.1
AMPELISCA VADORUM	--	--	0.5	<0.1	<0.1	<0.1	0.3	0.2	0.2	0.2	0.2
BYBLIS SERRATA	--	0.3	1.2	1.4	0.6	0.2	0.9	0.5	<0.1	--	0.4
AMPELISCIDAE	--	<0.1	0.7	0.1	0.1	0.1	0.1	<0.1	--	<0.1	0.1
CALLIOPIUS LAEVIUSCULUS	--	1.1	--	<0.1	0.1	<0.1	<0.1	0.6	0.3	<0.1	0.2
AEGININA LONGICORNIS	--	--	0.6	3.1	0.6	0.3	0.3	<0.1	<0.1	<0.1	0.3
CAPRELLIDAE	1.2	<0.1	1.1	0.4	0.2	<0.1	<0.1	<0.1	<0.1	--	0.1
UNCIOLA IRRORATA	2.4	5.1	4.9	3.0	2.6	0.6	0.5	0.4	0.3	0.2	0.9
UNCIOLA SP	2.4	<0.1	0.2	2.9	1.9	2.2	<0.1	<0.1	<0.1	--	0.7
GAMMARUS ANNULATUS	--	1.3	3.2	0.4	1.0	3.0	1.2	0.5	--	--	0.9
GAMMARUS LAWRENCIANUS	--	--	--	--	--	<0.1	--	1.7	--	--	0.3
GAMMARIDAE	--	<0.1	0.3	0.6	0.2	0.3	0.1	<0.1	<0.1	<0.1	0.2
LEPTOCHEIRUS PINGUIS	--	0.7	1.7	3.0	0.9	1.1	0.5	0.1	<0.1	<0.1	0.6
PONTOGENEIA INERMIS	--	0.2	0.2	1.0	1.3	1.0	3.4	1.8	0.3	0.1	1.3
AMPHIPODA	12.5	0.9	0.7	3.0	0.9	0.7	0.6	0.5	0.7	0.5	0.5
DECAPODA CRUSTACEA	--	1.6	3.3	3.3	1.0	1.0	0.3	0.7	1.0	0.2	0.8
CANCER IRRORATUS	--	--	0.9	0.8	0.3	0.9	0.1	0.4	0.6	<0.1	0.4
CRANGON SEPTEMSPINOSUS	--	1.3	0.7	1.3	0.4	<0.1	<0.1	<0.1	--	--	0.1
DECAPODA CRUSTACEA	--	0.3	1.7	1.2	0.3	0.1	0.2	0.3	0.4	0.2	0.3
OTHER CRUSTACEA	1.5	0.5	1.0	1.3	0.3	1.1	0.1	0.4	0.1	0.2	0.4
MOLLUSCA	--	<0.1	0.6	1.3	0.9	1.7	0.8	5.2	5.7	0.8	2.6
BIVALVIA	--	<0.1	0.6	0.9	0.8	1.1	0.6	1.6	0.2	0.6	0.8
OTHER MOLLUSCA	--	--	<0.1	0.4	0.1	0.6	0.2	3.6	5.5	0.2	1.8
ECHINODERMATA	--	--	--	0.2	0.2	0.3	0.2	1.4	<0.1	1.8	0.6
ECHINOIDEA	--	--	--	0.1	0.2	<0.1	0.2	0.7	<0.1	0.2	0.2
ECHINARACHNIUS PARMA	--	--	--	0.1	0.2	<0.1	0.1	0.7	<0.1	0.2	0.2
ECHINOIDEA	--	--	--	<0.1	<0.1	--	0.1	--	<0.1	--	<0.1
HOLOTHUROIDEA	--	--	--	<0.1	--	0.2	--	0.7	--	1.6	0.4
STEREODERMA UNISEMITA	--	--	--	--	--	--	--	--	--	1.2	0.2
HOLOTHUROIDEA	--	--	--	<0.1	--	--	--	0.7	--	0.4	0.2
OTHER ECHINODERMATA	--	--	--	0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
FISH	--	<0.1	--	2.3	0.1	0.4	19.6	<0.1	<0.1	<0.1	3.5
ENGRAULIDAE	--	--	--	--	--	--	2.5	--	--	--	0.4
AMMODYTES AMERICANUS	--	--	--	--	--	--	1.3	--	--	--	0.2
BOTHIDAE	--	--	--	--	--	--	15.8	--	--	--	2.7
PISCES	--	--	--	2.3	0.1	0.3	--	--	--	--	0.2
MISCELLANEOUS	11.2	5.2	27.4	29.9	39.2	34.7	26.7	60.1	61.5	82.4	49.5
Number of Stomachs Examined	7	54	117	285	388	326	214	169	116	70	1746
Number of Empty Stomachs	0	5	35	78	125	111	77	44	38	25	538
Mean Stomach Content Weight (g)	0.049	0.411	0.291	0.426	0.907	1.495	2.410	3.161	4.380	6.446	1.733
Mean Fish Length (cm)	9	13	18	23	28	32	37	42	47	56	32

TABLE 12. Stomach contents (%wt) by 5 cm length categories for windowpane.

Stomach Contents	1-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45	Total
CESTODA	—	—	0.3	0.4	0.2	0.1	0.8	—	—	0.2
POLYCHAETA	—	—	0.1	6.5	0.6	0.3	3.2	1.4	—	1.0
DIOPATRA CUPREA	—	—	—	—	—	—	2.0	—	—	0.2
POLYCHAETA	—	—	0.1	6.5	0.6	0.3	1.2	1.4	—	0.8
CRUSTACEA	100.0	100.0	99.3	82.7	68.9	64.0	63.5	35.5	9.0	65.9
AMPHIPODA	8.8	—	2.5	1.6	8.6	7.6	11.0	6.3	—	7.9
GAMMARUS ANNULATUS	—	—	0.7	0.3	4.8	5.4	8.2	0.3	—	5.2
GAMMARUS SP	—	—	1.4	<0.1	<0.1	0.6	1.2	—	—	0.5
GAMMARIDAE	8.8	—	—	<0.1	0.3	0.5	1.3	4.5	—	0.5
OEDICEROTIDAE	—	—	0.4	—	0.3	0.2	<0.1	0.2	—	0.2
LEPTOCHEIRUS PINGUIS	—	—	—	1.1	3.0	0.7	—	—	—	1.2
AMPHIPODA	—	—	<0.1	0.1	0.2	0.2	0.4	0.4	—	1.6
DECAPODA CRUSTACEA	—	0.8	9.4	4.9	15.7	13.8	16.1	19.6	—	14.2
CRANGON SEPTEMSPINOSUS	—	0.8	1.6	4.7	10.3	11.8	13.6	13.8	—	11.3
CRANGONIDAE	—	—	—	—	0.9	<0.1	<0.1	1.5	—	0.3
DICHELOPANDALUS LEPTOCERUS	—	—	—	—	0.4	0.2	1.8	4.3	—	0.5
PANDALIDAE	—	—	—	—	1.2	0.1	0.2	—	—	0.4
DECAPODA CRUSTACEA LARVAE	—	—	7.1	<0.1	2.1	1.4	—	—	—	1.4
SHRIMP	—	—	0.6	—	0.3	0.1	0.3	—	—	0.1
DECAPODA CRUSTACEA	—	—	0.1	0.2	0.5	0.2	0.2	—	—	0.2
CUMACEA	—	<0.1	—	<0.1	0.2	<0.1	<0.1	<0.1	4.0	0.1
EUPHAUSIACEA	4.0	0.3	5.2	—	0.6	1.5	0.8	—	—	1.1
MEGANYCTIPHANES NORVEGICA	4.0	0.3	5.2	—	0.6	1.5	0.8	—	—	1.1
EUPHAUSIACEA	—	—	—	—	—	<0.1	—	—	—	<0.1
MYSIDACEA	84.8	95.0	81.3	76.1	41.9	40.5	34.7	9.2	—	41.7
MYSIDOPSIS BIGELOWI	—	—	—	11.9	0.6	<0.1	<0.1	0.4	—	0.6
NEOMYSIS AMERICANA	84.8	94.6	45.6	60.6	41.2	40.0	34.6	8.8	—	40.2
MYSIDACEA	—	0.4	35.7	3.6	0.1	0.5	0.1	—	—	0.7
OTHER CRUSTACEA	2.4	3.9	0.9	0.1	1.9	0.6	0.9	0.4	5.0	0.9
CHAETOGNATHA	—	—	—	—	0.2	0.1	0.3	3.5	—	0.2
FISH	—	—	<0.1	9.3	28.1	34.7	31.1	59.2	31.0	31.5
ENGRAULIDAE	—	—	—	—	3.9	5.6	1.1	—	—	4.3
BROSME BROSME	—	—	—	—	—	0.4	—	11.4	—	0.4
MERLUCCIUS BILINEARIS	—	—	—	—	6.6	1.2	0.7	—	—	2.4
GADIDAE	—	—	—	—	<0.1	0.6	—	—	—	0.3
AMMODYTES AMERICANUS	—	—	—	3.4	9.0	20.3	28.0	47.8	—	17.8
FISH LARVAE	—	—	—	1.7	1.4	1.9	<0.1	—	—	1.2
PISCES	—	—	<0.1	4.2	7.2	4.7	1.3	—	31.0	5.1
MISCELLANEOUS	—	—	0.3	1.1	2.0	0.6	1.2	0.4	60.0	1.1
Number of Stomachs Examined	22	32	43	102	377	401	103	12	1	1094
Number of Empty Stomachs	9	5	8	28	153	133	40	3	0	380
Mean Stomach Content Weight (g)	0.006	0.074	0.187	0.264	0.477	1.007	0.785	0.946	0.100	0.652
Mean Fish Length (cm)	4	7	13	18	23	27	32	37	41	24

TABLE 13. Stomach contents (%wt) by 5 cm length categories for Atlantic mackerel.

Stomach Contents	16-20	21-25	26-30	31-35	36-40	41-45	Total
CRUSTACEA	81.4	94.0	94.6	69.1	89.5	92.6	90.1
AMPHIPODA	0.8	1.3	13.8	21.9	84.1	90.4	65.9
GAMMARUS ANNULATUS	--	--	--	9.8	74.2	90.4	59.7
PARATHEMISTO GAUDICHAUDII	<0.1	1.2	13.4	--	3.3	<0.1	3.2
PARATHEMISTO SP	0.1	--	--	12.1	6.5	<0.1	2.8
AMPHIPODA	0.7	0.1	0.4	<0.1	0.1	<0.1	0.2
DECAPODA CRUSTACEA	0.2	--	1.8	0.4	1.0	0.1	0.7
EUPHAUSIACEA	--	--	20.1	45.3	0.6	<0.1	4.7
EUPHAUSIA KROHNII	--	--	--	38.0	--	--	1.3
MEGANYCTIPHANES NORVEGICA	--	--	20.1	3.3	0.6	<0.1	3.2
EUPHAUSIACEA	--	--	<0.1	4.0	<0.1	<0.1	0.2
MYSIDACEA	68.8	--	38.3	<0.1	<0.1	0.8	11.3
MYSIDOPSIS BIGELOWI	5.3	--	--	--	--	--	0.4
NEOMYSIS AMERICANA	63.4	--	38.3	<0.1	--	0.8	10.9
MYSIDACEA	0.1	--	--	<0.1	<0.1	--	<0.1
COPEPODA	11.5	92.7	18.4	--	3.7	1.1	7.1
CENTROPAGES SP	4.3	92.7	--	--	--	--	2.1
CALANOID COPEPOD	7.0	--	7.3	--	0.9	<0.1	1.9
COPEPODA	0.2	--	11.1	--	2.8	1.1	3.0
OTHER CRUSTACEA	0.1	1.3	2.2	1.5	0.1	0.2	0.4
MOLLUSCA	<0.1	--	--	<0.1	0.5	--	0.2
CEPHALOPODA	<0.1	--	--	<0.1	0.4	--	0.2
DECAPODA SQUID	--	--	--	<0.1	0.4	--	0.2
CEPHALOPODA	<0.1	--	--	--	--	--	<0.1
OTHER MOLLUSCA	--	--	--	--	0.1	--	<0.1
CHAETOGNATHA	15.0	--	5.0	25.5	9.0	7.2	8.6
SAGITTA ELEGANS	5.6	--	4.8	16.2	3.9	5.2	5.0
CHAETOGNATHA	9.4	--	0.2	9.3	5.1	2.0	3.6
UROCHORDATA-CHORDATA	1.3	--	0.2	--	--	--	0.1
FISH	0.2	--	<0.1	--	0.2	<0.1	<0.1
MISCELLANEOUS	2.1	6.0	0.4	5.4	0.8	0.2	0.9
Number of Stomachs Examined	33	7	17	26	25	8	116
Number of Empty Stomachs	1	1	5	8	5	1	21
Mean Stomach Content Weight (g)	0.634	0.715	2.226	0.341	3.897	11.594	2.266
Mean Fish Length (cm)	17	22	28	33	38	41	29

TABLE 14a. Stomach contents (%wt) by 5 cm length categories for black sea bass.

Stomach Contents	1-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40	>40	Total
COELENTERATA	—	—	<0.1	—	1.3	3.4	<0.1	—	1.3	1.5
HYDROZOA	—	—	—	—	<0.1	0.3	—	—	—	0.1
CERIANTHARIA	—	—	<0.1	—	1.2	0.3	<0.1	—	1.3	0.6
ANTHOZOA	—	—	—	—	<0.1	2.8	—	—	—	0.8
POLYCHAETA	—	5.9	8.4	0.4	0.8	0.2	0.5	<0.1	9.6	2.0
APHRODITA HASTATA	—	—	—	—	—	—	—	—	9.2	1.3
POLYCHAETA	—	5.9	8.4	0.4	0.8	0.2	0.5	<0.1	0.4	0.7
CRUSTACEA	85.5	91.7	83.0	77.2	46.0	58.3	79.0	45.7	17.4	54.6
AMPHIPODA	43.5	19.8	0.5	0.2	<0.1	0.1	7.5	—	—	1.3
UNCIOLA SP	22.6	3.3	0.3	<0.1	<0.1	—	—	—	—	0.1
GAMMARUS ANNULATUS	—	—	—	—	—	<0.1	7.5	—	—	1.1
AMPHIPODA	20.9	16.5	0.2	0.2	—	1.0	7.5	—	—	0.1
DECAPODA CRUSTACEA	35.5	44.2	47.2	40.7	38.4	54.9	70.1	45.7	17.4	45.6
CALAPPA SP	—	—	—	0.6	0.6	—	—	—	—	0.2
CALAPPIDAE	—	—	—	1.0	1.7	—	—	—	—	0.5
CANCER BOREALIS	—	—	1.8	—	—	<0.1	7.6	—	—	1.2
CANCER IRRORATUS	—	10.2	23.8	19.6	17.5	40.3	37.2	45.7	7.6	26.9
CRANGON SEPTEMSPINOSUS	14.5	19.4	0.1	<0.1	0.3	0.3	<0.1	—	<0.1	0.2
MUNIDA IRIS	—	—	—	2.3	0.3	0.3	—	—	—	0.4
MUNIDA SP	—	1.7	—	—	0.1	4.2	1.7	—	—	1.5
HYAS COARCTATUS	—	—	—	—	0.7	0.4	0.7	—	—	0.4
LIBINIA SP	—	—	—	—	—	0.2	3.2	—	—	0.5
PAGURUS ACADIANUS	—	—	—	—	—	0.7	—	—	—	0.2
PAGURUS LONGICARPUS	—	—	6.1	0.8	<0.1	—	—	—	0.5	0.3
PAGURUS POLITUS	—	—	—	0.8	0.2	—	—	—	—	0.1
PAGURUS POLLICARIS	—	—	<0.1	—	0.4	<0.1	—	—	1.6	0.4
PAGURUS PUBESCENS	—	—	—	—	0.9	—	0.9	—	—	0.4
PAGURIDAE	—	1.9	0.3	0.8	4.3	3.1	—	—	—	2.0
PARTHENOPE POURTALESII	—	—	—	—	—	—	3.0	—	—	0.5
OVALIPES OCELLATUS	—	—	—	—	—	—	15.2	—	0.5	2.4
OVALIPES GUADULPENSIS	—	—	—	—	—	—	—	—	4.3	0.6
PANOPEUS HERBSTI	—	—	—	<0.1	0.3	0.7	—	—	—	0.3
PILUMNUS SAYI	—	—	—	2.1	0.4	0.9	—	—	2.6	1.0
ALBUNEA SP	—	—	—	—	—	0.4	—	—	—	0.1
CRAB	—	1.2	5.6	6.6	4.1	1.4	0.6	—	0.2	2.4
SHRIMP	21.0	9.5	<0.1	0.4	2.7	0.9	<0.1	—	<0.1	1.0
DECAPODA CRUSTACEA	—	0.3	9.5	5.7	3.9	1.1	<0.1	—	0.1	2.1
EUPHAUSIACEA	—	—	33.8	34.2	7.3	0.3	0.1	—	—	6.4
MEGANYCTIPHANES NORVEGICA	—	—	33.8	34.2	7.3	0.3	0.1	—	—	6.4
MYSIDACEA	3.2	4.2	0.2	1.1	0.1	2.5	<0.1	—	—	0.9
NEOMYSIS AMERICANA	3.2	4.2	—	1.1	<0.1	2.5	<0.1	—	—	0.9
MYSIDACEA	—	—	0.2	<0.1	0.1	—	—	—	—	<0.1
OTHER CRUSTACEA	3.2	23.3	1.3	1.0	0.2	0.4	1.1	—	—	0.5

TABLE 14b. Stomach contents (%wt) by 5 cm length categories for black sea bass (continued).

Stomach Contents	1-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40	>40	Total
PYCNOGONIDA	--	--	--	--	--	--	--	--	1.5	0.2
MOLLUSCA	--	0.5	2.6	6.6	20.6	9.3	2.6	10.5	6.7	10.3
BIVALVIA	--	0.5	1.9	4.2	7.5	8.0	1.1	6.9	1.3	5.2
YOLDIA SP	--	0.5	--	1.5	--	--	--	--	--	0.2
PECTEN SP	--	--	--	<0.1	2.5	--	--	--	--	0.6
PTERIA VITREA	--	--	--	--	--	0.6	--	--	--	0.2
LAEVICARDIUM LAEVIGATUM	--	--	--	--	0.4	--	--	--	--	0.1
LAEVICARDIUM PICTUM	--	--	--	--	1.2	1.0	--	--	--	0.6
LAEVICARDIUM SP	--	--	--	1.7	0.6	5.6	--	--	--	1.9
ENSIS DIRECTUS	--	--	--	--	0.3	--	--	6.9	1.3	0.5
SOLEN VIRIDIS	--	--	--	--	1.3	--	--	--	--	0.3
BIVALVIA	--	--	1.9	1.0	1.2	0.8	1.1	--	--	0.8
GASTROPODA	--	--	0.1	1.0	1.0	0.1	1.0	--	<0.1	0.6
PLEUROBRANCHAEA SP	--	--	--	0.4	--	0.1	0.9	--	--	0.2
DIODORA SP	--	--	--	--	0.7	--	--	--	--	0.2
GASTROPODA	--	--	0.1	0.6	0.3	--	0.1	--	<0.1	0.2
CEPHALOPODA	--	--	--	1.0	12.1	0.6	0.5	3.3	2.3	3.8
LOLIGO SP	--	--	--	--	4.1	--	--	--	2.2	1.3
ROSSIA SP	--	--	--	--	2.2	--	--	--	--	0.5
DECAPODA SQUID	--	--	--	--	2.3	0.6	--	--	--	0.8
CEPHALOPODA	--	--	--	1.0	3.5	--	0.5	3.3	0.1	1.2
OTHER MOLLUSCA	--	--	0.6	0.4	<0.1	0.6	--	0.3	3.1	0.7
UROCHORDATA-CHORDATA	--	--	--	--	0.9	0.2	<0.1	--	<0.1	0.3
LARVACEA	--	--	--	--	0.7	0.2	<0.1	--	<0.1	0.2
THALIACEA	--	--	--	--	0.2	--	--	--	--	0.1
FISH	--	1.8	2.6	8.4	27.9	25.1	14.7	43.5	63.0	28.2
ALEPOCEPHALIDAE	--	--	--	--	--	2.0	--	--	--	0.5
CLUPEA HARENGUS	--	--	--	--	2.3	--	--	--	--	0.6
ANCHOA HEPSETUS	--	--	--	6.8	17.2	--	--	--	9.5	6.4
ANCHOA MITCHILLI	--	--	--	--	--	--	9.6	--	--	1.5
ENGRAULIDAE	--	--	--	--	3.7	--	--	--	--	0.9
CYPRINODON VARIEGATUS	--	--	--	--	--	--	--	30.4	--	1.2
SEAHORSE	--	--	--	--	--	--	1.9	--	--	0.3
SYNGNATHUS FUSCUS	--	--	--	--	--	--	3.0	--	--	0.5
MYCTOPHIDAE	--	--	--	--	--	12.8	--	--	--	3.6
AMMODYTES AMERICANUS	--	--	--	--	--	--	--	--	20.6	3.0
OPHIDIIDAE	--	--	--	--	--	2.1	--	--	--	0.6
STENOTOMUS CHRYSOPS	--	--	--	--	--	3.7	--	--	25.3	4.8
SCOPHTHALMUS AQUOSUS	--	--	--	--	--	--	--	--	4.5	0.7
PISCES	--	1.8	2.6	1.6	4.7	4.5	0.2	13.1	3.1	3.6
MISCELLANEOUS	14.5	0.2	3.4	7.4	2.5	3.5	3.2	0.3	0.3	3.0
Number of Stomachs Examined	9	82	69	142	190	104	51	17	25	689
Number of Empty Stomachs	1	11	19	36	66	30	18	12	8	201
Mean Stomach Content Weight (g)	0.007	0.023	0.223	0.581	0.964	2.019	2.228	1.800	4.385	1.084
Mean Fish Length (cm)	5	7	13	18	22	27	32	38	45	21

TABLE 15. Stomach contents (%wt) by 5 cm length categories for redfish.

Stomach Contents	11-15	16-20	21-25	26-30	31-35	36-40	41-45	Total
CRUSTACEA	100.0	100.0	98.8	92.8	80.1	99.3	100.0	91.4
AMPHIPODA	--	0.5	0.9	0.2	1.6	0.6	42.9	1.0
PARATHEMISTO GAUDICHAUDII	--	0.4	0.7	--	1.3	0.2	--	0.6
PARATHEMISTO SP	--	--	0.1	<0.1	0.2	0.2	38.9	0.3
AMPHIPODA	--	0.1	0.1	0.2	0.1	0.2	4.0	0.1
DECAPODA CRUSTACEA	--	4.1	3.0	<0.1	0.3	6.6	--	3.1
CRANGON SEPTEMSPINOSUS	--	--	--	--	--	4.8	--	1.9
DICHELOPANDALUS LEPTOCERUS	--	--	3.0	--	--	0.5	--	0.5
PANDALIDAE	--	--	--	--	--	0.8	--	0.3
SHRIMP	--	4.1	<0.1	<0.1	--	0.2	--	0.2
DECAPODA CRUSTACEA	--	--	--	--	0.3	0.3	--	0.2
EUPHAUSIACEA	--	32.3	65.4	81.9	77.3	90.7	57.1	80.8
MEGANYCTIPHANES NORVEGICA	--	32.3	64.0	79.4	76.8	90.3	57.1	80.0
EUPHAUSIACEA	--	--	1.4	2.5	0.5	0.4	--	0.8
COPEPODA	--	62.7	29.3	9.5	0.4	1.0	--	5.9
CALANUS SP	--	62.7	29.3	9.5	0.3	1.0	--	5.9
COPEPODA	--	--	--	--	0.1	--	--	<0.1
OTHER CRUSTACEA	100.0	0.4	0.2	1.2	0.5	0.4	--	0.6
MOLLUSCA	--	--	--	5.8	<0.1	--	--	0.6
FISH	--	--	--	1.3	19.5	0.2	--	7.5
MERLUCCIUS BILINEARIS	--	--	--	--	19.5	--	--	7.2
SEBASTES MARINUS	--	--	--	1.3	--	--	--	0.1
FISH	--	--	--	--	<0.1	0.2	--	0.2
MISCELLANEOUS	--	--	1.2	0.1	0.4	0.5	--	0.5
Number of Stomachs Examined	4	15	45	56	82	63	8	273
Number of Empty Stomachs	1	9	29	35	48	29	5	156
Mean Stomach Content Weight (g)	0.038	0.285	0.439	0.387	0.884	1.216	0.062	0.716
Mean Fish Length (cm)	14	18	23	28	32	37	41	30

TABLE 16. *Stomach contents (%wt) by 10 cm length categories for goosefish.*

Stomach Contents	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	>90	Total
COELENTERATA	--	--	--	--	--	--	--	--	2.2	0.3	0.4
CRUSTACEA	49.0	1.0	0.3	0.5	<0.1	0.1	0.2	<0.1	<0.1	<0.1	<0.1
MOLLUSCA	--	0.3	3.4	8.8	27.0	31.4	40.3	28.5	29.5	17.9	25.3
BIVALVIA	--	--	<0.1	--	--	<0.1	<0.1	--	1.2	--	0.2
CEPHALOPODA	--	0.3	3.3	8.8	27.0	31.4	40.3	28.5	28.3	17.9	25.1
LOLIGO SP	--	--	--	--	3.6	0.9	5.5	--	--	0.9	1.2
ILLEX ILLECEBROSUS	--	--	--	--	8.6	26.4	16.0	14.6	15.9	16.6	15.7
ROSSIA SP	--	--	--	--	--	--	7.8	--	--	--	1.0
CEPHALOPODA	--	0.3	3.3	8.8	14.8	4.1	11.0	13.9	12.4	0.4	7.2
FISH	36.9	98.5	96.3	89.6	72.9	67.2	58.6	71.4	68.0	80.8	73.6
RAJA RADIATA	--	--	--	--	--	--	--	--	--	0.9	0.3
RAJIDAE	--	--	--	--	--	3.4	15.2	6.0	5.2	9.4	7.7
SQUALUS ACANTHIAS	--	--	--	--	0.7	--	0.5	2.7	--	--	0.6
ALOSA PSEUDOHARENGUS	--	--	--	--	--	5.1	--	--	--	1.0	0.7
CLUPEA HARENGUS	--	--	--	--	--	--	--	--	--	0.8	0.3
CLUPEIDAE	--	--	--	--	--	1.7	--	--	1.2	14.2	5.7
ENCHELYOPUS CIMBRIUS	--	--	5.1	4.5	--	2.4	--	--	--	--	0.4
MELANOGRAMMUS AEGLEFINUS	--	--	--	--	--	--	--	--	4.9	0.5	0.9
MERLUCCIUS BILINEARIS	--	15.1	34.6	--	14.5	13.0	7.7	3.4	3.9	2.5	5.3
POLLACHIUS VIRENS	--	--	--	--	--	3.2	--	--	--	--	0.2
PHYCIS CHESTERI	--	--	--	--	--	2.1	--	0.4	0.6	--	0.3
UROPHYCIS CHUSS	--	--	--	--	--	0.2	<0.1	--	--	4.8	1.9
GADIDAE	--	--	6.2	1.9	2.5	<0.1	--	15.1	--	7.8	6.3
LOPHIIDAE	--	--	--	--	--	--	--	--	--	4.0	1.5
AMMODYTES AMERICANUS	--	24.3	--	--	0.8	--	0.6	0.2	<0.1	--	0.2
ANARHICHADIDAE	--	--	--	--	--	--	--	--	1.9	--	0.3
LOPHOLATILUS CHAMAELEONTIC	--	--	--	--	--	--	--	--	--	0.7	0.3
HEMITRIPTERUS AMERICANUS	--	--	--	--	--	--	--	--	--	0.3	0.1
MYOXOCEPHALUS OCTODECEMSPI	--	--	--	--	--	7.0	1.7	2.4	--	0.9	1.5
HELICOLENUS DACTYLOPTERUS	--	--	--	--	--	--	--	--	--	0.4	0.1
SEBASTES MARINUS	--	--	--	--	--	--	2.9	--	--	--	0.4
PEPRILUS TRIACANTHUS	--	--	--	--	--	1.7	1.7	0.9	2.0	--	0.8
TRIGLIDAE	--	--	--	--	--	--	--	0.9	3.5	--	0.7
ETROPUS MICROSTOMUS	--	--	--	--	--	--	--	--	--	0.9	0.4
PARALICHTHYS OBLONGUS	--	--	--	--	--	--	--	--	2.1	--	0.3
SCOPHTHALMUS AQUOSUS	--	--	--	--	--	--	--	--	--	0.7	0.3
GLYPTOCEPHALUS CYNOGLOSSUS	--	--	4.9	--	--	--	--	0.7	--	0.8	0.5
HIPPOGLOSSOIDES PLATESSOID	--	--	--	--	--	--	--	--	0.2	4.6	1.8
LIMANDA FERRUGINEA	--	0.4	--	--	--	--	--	1.1	--	--	0.2
PSEUDOPLEURONECTES AMERICANUS	--	--	1.7	--	0.4	--	--	--	--	1.3	0.5
PLEURONECTIFORMES	--	--	1.7	--	5.0	8.1	--	0.1	10.5	--	2.2
FISH	36.9	58.7	42.1	83.2	49.0	19.3	28.3	37.5	32.0	0.2	30.9
MISCELLANEOUS	14.1	0.2	<0.1	1.1	<0.1	1.2	0.9	<0.1	0.2	24.1	0.6
Number of Stomachs Examined	5	47	81	106	113	108	124	122	89	105	900
Number of Empty Stomachs	1	23	39	53	77	61	79	55	43	54	485
Mean Stomach Content Weight (g)	0.096	3.821	13.565	12.725	19.072	34.915	59.793	90.666	90.330	205.574	62.949
Mean Fish Length (cm)	7	16	25	35	45	55	65	75	85	98	58

TABLE 17. Stomach contents (%wt) by 5 cm length categories for shortfinned squid.

Stomach Contents	1-5	6-10	11-15	16-20	21-25	26-30	>30	Total
CESTODA	0.1	<0.1	0.1	0.4	0.3	0.2	<0.1	0.3
TREMATODA	--	--	--	0.3	0.2	0.2	0.2	0.2
POLYCHAETA	--	--	0.7	--	<0.1	<0.1	--	<0.1
CRUSTACEA	0.4	14.6	7.2	36.3	19.4	7.8	--	16.4
AMPHIPODA	--	--	--	<0.1	<0.1	--	--	<0.1
DECAPODA CRUSTACEA	--	--	0.5	1.4	0.4	<0.1	--	0.4
EUPHAUSIACEA	--	--	--	12.5	3.0	1.4	--	3.2
MEGANYCTIPHANES NORVEGICA	--	--	--	<0.1	0.3	0.1	--	0.2
EUPHAUSIACEA	--	--	--	12.5	2.7	1.3	--	3.0
OTHER CRUSTACEA	0.4	14.6	6.7	22.4	15.9	6.4	--	12.8
MOLLUSCA	--	2.0	15.9	8.4	20.7	60.9	95.8	34.4
CEPHALOPODA	--	2.0	15.9	8.4	20.7	60.9	95.8	34.4
OTHER MOLLUSCA	--	--	--	<0.1	--	--	--	<0.1
FISH	89.9	6.0	20.4	10.0	27.6	8.5	0.1	18.8
RAJIDAE	--	--	--	--	0.2	--	--	0.1
GADIDAE	--	--	--	--	<0.1	0.5	--	0.2
PISCES	89.9	6.0	20.4	10.0	27.4	8.0	0.1	18.5
MISCELLANEOUS	9.5	77.3	55.7	44.7	31.9	22.3	3.9	30.0
Number of Stomachs Examined	12	145	358	601	1074	264	15	2469
Number of Empty Stomachs	0	48	116	166	228	70	6	634
Mean Stomach Content Weight (g)	0.170	0.068	0.249	0.524	1.634	3.851	7.820	1.339
Mean Fish Length (cm)	4	8	13	18	22	27	35	19

TABLE 18. Stomach contents (%wt) by 5 cm length categories for longfinned squid.

Stomach Contents	1-5	6-10	11-15	16-20	21-25	26-30	31-35	Total
CRUSTACEA	1.7	4.2	7.2	3.9	5.8	0.8	--	5.1
AMPHIPODA	0.2	0.3	0.3	<0.1	<0.1	<0.1	--	0.2
DECAPODA CRUSTACEA	--	<0.1	0.5	<0.1	<0.1	0.8	--	0.2
EUPHAUSIACEA	--	0.8	3.5	2.1	3.7	--	--	2.5
MEGANYCTIPHANES NORVEGICA	--	--	0.5	<0.1	--	--	--	0.2
EUPHAUSIACEA	--	0.8	3.0	2.1	3.7	--	--	2.3
OTHER CRUSTACEA	1.6	3.0	2.8	1.7	2.1	<0.1	--	2.2
MOLLUSCA	--	2.8	5.1	8.4	2.3	10.9	9.5	5.5
CEPHALOPODA	--	2.8	5.1	8.4	2.3	10.9	9.5	5.5
OTHER MOLLUSCA	--	--	--	<0.1	<0.1	--	--	<0.1
FISH	3.1	5.5	11.4	12.3	23.8	17.0	3.5	13.6
GADIDAE	--	--	<0.1	0.2	--	<0.1	--	<0.1
AMMODYTES AMERICANUS	--	--	--	--	1.0	--	--	0.2
PISCES	3.1	5.6	11.3	12.1	22.7	17.0	3.4	13.1
MISCELLANEOUS	95.1	87.4	76.4	75.4	68.1	71.2	87.0	75.8
Number of Stomachs Examined	165	818	827	447	189	59	9	2516
Number of Empty Stomachs	78	182	214	133	49	15	3	676
Mean Stomach Content Weight (g)	0.028	0.231	0.450	0.977	1.503	1.055	1.568	0.542
Mean Fish Length (cm)	4	8	12	17	22	27	32	12