

Table S1. Stomach contents as mean percent weight (MW%) by Longhurst Province of all prey in the full data set. Prey are grouped to family level or a coarser taxonomic classification when prey were not identifiable to family level.

Prey Group	ARCT	CARB	CNRY	GFST	MEDI	NADR	NASE	NWCS	SARC
Teleost_Unid	0.1	5.5	13.8	0.0	14.5	10.7	0.7	14.7	19.9
Cephalopoda_Unid	7.2	11.0	0.0	0.0	1.6	6.8	1.3	2.8	28.7
Crab_Unid	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.4	0.0
Shrimp_Unid	0.0	1.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Crust_Decapoda	0.0	0.0	0.3	100.0	0.9	0.0	0.0	0.1	0.0
Crustacea_Unid	0.0	0.0	1.1	0.0	2.3	0.0	0.0	0.2	0.0
Miscellaneous	0.2	7.9	0.3	0.0	4.0	0.3	0.0	0.8	10.1
Fish_Larvae_Unid	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0
Acanthephyridae	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Alepisauridae	0.0	14.4	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Alloposidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ammodytidae	13.1	0.0	0.0	0.0	0.3	19.7	0.0	13.3	0.0
Amphipoda	0.0	2.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0
Ancistrocheiridae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Anguillidae	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0
Argentinidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Argonautidae	0.0	0.1	0.0	0.0	1.3	0.0	0.0	0.1	0.0
Aristeidae	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Asteroidea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Atherinidae	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Balistidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Belonidae	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.8	0.0
Benthesicymidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bivalvia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Bolitaenidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Brachiopoda	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Brachioteuthidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Brachyscelidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bramidae	5.1	7.3	0.0	0.0	0.1	6.8	0.0	0.0	0.0
Calappidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Callianassidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Callionymidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cancridae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Caproidae	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Carangidae	0.0	0.0	13.2	0.0	3.4	2.9	7.0	0.0	0.0
Caridea	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0
Carinariidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Centracanthidae	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Centriscidae	0.0	0.0	0.0	0.0	0.0	0.0	28.9	0.0	0.0
Centrolophidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
Cepolidae	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
Chiroteuthidae	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Chlorophthalmidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chtenopterygidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cirolanidae	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Clupeidae	0.0	1.0	1.8	0.0	10.7	0.0	0.0	37.3	0.0

Congridae	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Copepoda_unid	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Coryphaenidae	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cottidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cranchiidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crangonidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cryptacanthodidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cyclopteridae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Cynoglossidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dactylopteridae	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Diodontidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Diogenidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diphyidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diretmidae	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0
Doliolidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dromiidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Engraulidae	0.0	0.0	52.5	0.0	13.6	22.9	0.0	0.0	0.0
Enoploteuthidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Euphausiacea	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Euphausiidae	0.0	0.0	4.2	0.0	1.8	6.7	0.0	0.4	0.0
Gadidae	0.0	0.0	6.1	0.0	0.8	8.2	0.0	1.3	0.1
Gammaridae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gammaridea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gastropoda	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gasterosteidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gempylidae	0.0	6.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gerreidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Gobiidae	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Gonatidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0
Gonostomatidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Haemulidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Histioteuthidae	0.0	0.0	0.0	0.0	1.0	0.0	0.1	0.0	0.0
Holothuriidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Hyperiididae	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Hyperiidea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
Isopoda	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Labridae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lampeidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lobotidae	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Loliginidae	0.0	0.0	1.4	0.0	0.2	0.0	0.0	0.4	0.0
Lophiformes	5.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Luvaridae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lycaeidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Macroramphosidae	0.0	0.0	0.0	0.0	0.0	0.0	33.6	0.0	0.0
Macrouridae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mactridae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Melamphaidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Merlucciidae	0.0	0.0	0.0	0.0	0.1	0.0	0.0	1.4	0.0
Microstomatidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Monacanthidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mugilidae	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Munididae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Myctophidae	0.0	0.0	0.6	0.0	3.7	0.0	0.0	0.0	0.3
Mysidacea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mytilidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Natantia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nephropidae	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Nomeidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Notacanthidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Octopoda	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0

Octopodidae	0.0	0.0	0.0	0.0	0.1	0.0	1.5	0.0	0.0
Octopoteuthidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ommastrephidae	0.0	0.0	0.8	0.0	8.6	0.0	0.0	8.1	20.1
Onychoteuthidae	3.4	0.1	0.0	0.0	0.4	0.0	0.0	0.0	0.0
Ophichthidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oplophoridae	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Oregoniidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Osmeridae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oweniidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oxycephalidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Paguridea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Palaemonidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pandalidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
Paralepididae	25.1	0.0	0.0	0.0	1.7	2.3	0.0	0.3	16.9
Paralichthyidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Pasiphaeidae	0.0	0.0	0.3	0.0	0.9	0.0	0.0	0.0	0.1
Pectinidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Penaeidae	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Phosichthyidae	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Phycidae	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.6	0.0
Phronimidae	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.0
Phrosinidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Platyscelidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pleuronectidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.1
Polybiidae	0.0	0.0	0.0	0.0	3.3	0.0	0.0	0.0	0.0
Pomatomidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0
Portunidae	0.0	0.4	0.7	0.0	0.1	0.0	0.0	0.8	0.0
Procellariidae	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0
Processidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pyrosomatidae	0.0	30.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Pyroteuthidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rajidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0
Regalecidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Salpidae	0.0	0.0	0.0	0.0	0.0	0.1	3.1	0.0	0.0
Sciaenidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Scomberesocidae	0.0	0.0	0.0	0.0	0.1	11.6	0.0	0.9	0.0
Scombridae	40.0	0.0	1.7	0.0	3.7	0.0	13.6	8.1	0.0
Scopthalmidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0
Scorpaenidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scyllaridae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sebastidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Sepiidae	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Sepiolidae	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0
Sergestidae	0.0	0.0	0.0	0.0	4.8	0.0	0.0	0.0	0.0
Serranidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Siphonophora	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Soleidae	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Solenoceridae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sparidae	0.0	0.0	0.1	0.0	1.5	0.0	4.2	0.1	0.0
Sphyaenidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Squalidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0
Squilidae	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0
Sternoptychidae	0.0	0.0	0.3	0.0	0.9	0.0	0.0	0.0	0.0
Stomatopoda	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Stomiidae	0.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0
Stromateidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0
Subertidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0
Syngnathidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
Tellinidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tetragonuridae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Tetraodontidae	0.0	1.2	0.0	0.0	0.2	0.0	2.1	0.0	0.0
Thaliacea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thalassinidea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thysanoteuthidae	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Trachinidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tremoctopodidae	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Triakidae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Trichiuridae	0.0	0.0	0.0	0.0	0.6	0.0	0.2	0.0	0.0
Triglidae	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0

Table S2. Summary of prey sizes by species. N=total number of prey items with size information; mean, minimum (Min), and maximum (Max) prey sizes measured within each group. All prey sizes are reported in centimeters.

Prey species	N	Mean ± SD		Min	Max
Cephalopoda					
<i>Alloteuthis</i> sp.	9	6.5	± 2.0	3.9	9.5
<i>Ancistrocheirus lesueurii</i>	2	19.6	± 15.6	8.6	30.6
<i>Argonauta</i> sp.	32	5.8	± 3.1	0.7	14.4
<i>Chtenopteryx sicula</i>	2	5.4	± 0.0	5.4	5.4
<i>Heteroteuthis dispar</i>	3	2.0	± 0.2	1.7	2.2
<i>Histioteuthis</i> sp.	13	7.8	± 6.6	1.8	24.0
<i>Illex coindetii</i>	8	9.4	± 1.8	6.9	12.1
<i>Loligo vulgaris</i>	1	16.7	-	16.7	16.7
<i>Onychoteuthis banksii</i>	8	7.1	± 3.0	3.2	10.1
<i>Sepia officinalis</i>	1	21.7	-	21.7	21.7
<i>Sepiola</i> sp.	2	5.0	± 1.1	4.2	5.8
<i>Todarodes sagittatus</i>	3	17.4	± 8.8	12.0	27.6
<i>Todarodes</i> sp.	20	11.7	± 4.7	4.3	21.3
<i>Todaropsis eblanae</i>	1	14.6	-	14.6	14.6
<i>Tremoctopus violaceus</i>	22	4.9	± 4.6	1.3	17.2
Crustacea					
<i>Acanephyra</i> sp.	13	8.9	± 1.3	6.8	10.7
<i>Aristeus antennatus</i>	2	8.2	± 5.6	4.2	12.1
<i>Cirolana borealis</i>	17	2.6	± 1.8	1.1	9.3
<i>Funchalia villos</i>	3	11.4	± 1.1	10.2	12.1
<i>Liocarcinus</i> sp.	8	4.2	± 1.3	3.1	7.2
<i>Meganyctiphanes norvegica</i>	1	2.3	-	2.3	2.3
<i>Parapenaeus longirostris</i>	2	11.4	± 2.4	9.7	13.1
<i>Pasiphaea multidentata</i>	12	12.2	± 2.9	3.8	16.2
<i>Pasiphaea</i> sp.	12	10.1	± 3.3	2.6	14.2
<i>Plesionika</i> sp.	1	12.5	-	12.5	12.5
<i>Polybius henslowii</i>	4	3.8	± 0.5	3.4	4.6
<i>Polybius</i> sp.	3	4.3	± 0.8	3.8	5.3
<i>Processa canaliculata</i>	1	3.2	-	3.2	3.2
<i>Robustosergia robusta</i>	13	6.4	± 2.3	1.4	9.6
Euphausiacea unclassified	1	1.3	-	1.3	1.3
Mollusca unclassified	1	12.2	-	12.2	12.2
Shrimp unclassified	1	3.3	-	3.3	3.3
Teleost					
<i>Alosa aestivalis</i>	30	21.4	± 4.8	2.4	25.3
<i>Alosa pseudoharengus</i>	27	22.2	± 2.0	18.0	26.1
<i>Ammodytes dubius</i>	15	12.1	± 1.1	10.4	14.0
<i>Aphanopus carbo</i>	1	44.3	-	44.3	44.3

<i>Arctozenus risso</i>	1	23.6	-	23.6	23.6
<i>Auxis rochei</i>	8	32.5	± 5.3	26.5	41.0
<i>Balistes carolinensis</i>	1	6.8	-	6.8	6.8
<i>Belone belone</i>	16	20.9	± 3.9	13.4	28.3
<i>Boops boops</i>	4	17.5	± 3.1	14.3	21.3
<i>Brama brama</i>	1	17.0	-	17.0	17.0
<i>Brevoortia tyrannus</i>	57	28.0	± 2.2	20.3	32.0
<i>Capros aper</i>	2	5.6	± 3.3	3.2	7.9
<i>Caranx rhonchus</i>	1	43.2	-	43.2	43.2
<i>Chauliodus sloani</i>	19	25.4	± 8.6	17.1	59.0
<i>Clupea harengus</i>	144	23.9	± 2.6	13.6	33.0
<i>Cubiceps gracilis</i>	1	19.7	-	19.7	19.7
<i>Cyclopterus lumpus</i>	3	10.9	± 2.8	7.7	13.0
<i>Diplodus vulgaris</i>	1	17.4	-	17.4	17.4
<i>Engraulis encrasicolus</i>	8	8.2	± 2.1	6.3	11.0
<i>Gadus morhua</i>	4	57.0	± 2.7	53.2	59.5
<i>Gymnammodytes cicerelus</i>	9	17.7	± 4.6	9.7	21.8
<i>Lampanyctus crocodilus</i>	9	17.0	± 4.1	8.7	23.2
<i>Lepidopus caudatus</i>	4	70.8	± 26.6	46.7	108.0
<i>Maurollicus muelleri</i>	3	4.8	± 0.5	4.3	5.3
<i>Melanogrammus aeglefinus</i>	4	31.9	± 6.2	23.9	39.0
<i>Merluccius bilinearis</i>	21	30.2	± 8.4	15.0	46.7
<i>Myctophid sp.</i>	6	8.0	± 5.9	3.8	19.3
<i>Myctophum punctatum</i>	2	8.2	± 0.1	8.1	8.3
<i>Pagellus acarne</i>	5	11.3	± 3.7	5.0	14.5
<i>Pagellus bogaraveo</i>	2	28.2	± 4.2	25.2	31.2
<i>Pagelus erythrinus</i>	1	14.0	-	14.0	14.0
<i>Pagrus pagrus</i>	1	30.7	-	30.7	30.7
<i>Pasiphaeidae sp.</i>	1	11.6	-	11.6	11.6
<i>Peprilus triacanthus</i>	3	14.6	± 4.2	9.8	17.8
<i>Phycis blennoides</i>	1	30.0	-	30.0	30.0
<i>Platophrys podas</i>	1	16.5	-	16.5	16.5
<i>Pollachius virens</i>	15	32.0	± 4.8	22.5	40.5
<i>Pomatomus saltatrix</i>	3	45.1	± 8.0	38.0	53.8
<i>Sarda sarda</i>	1	44.6	-	44.6	44.6
<i>Sardina pilchardus</i>	33	13.1	± 4.1	4.9	18.1
<i>Scomber colias</i>	4	21.4	± 5.0	17.0	26.7
<i>Scomber scombrus</i>	175	23.8	± 3.0	15.2	34.5
<i>Scomberesox saurus</i>	12	10.8	± 1.7	9.5	16.0
<i>Sebastes fasciatus</i>	1	11.7	-	11.7	11.7
<i>Seriola sp.</i>	2	44.3	± 21.2	29.3	59.3
<i>Tautogolabrus adspersus</i>	6	16.1	± 5.6	8.5	22.4
<i>Tetragonurus cuvieri</i>	10	28.5	± 4.3	23.1	33.4
<i>Trachinus draco</i>	1	27.1	-	27.1	27.1
<i>Trachurus trachurus</i>	35	18.0	± 12.4	5.0	48.2
<i>Urophycis chuss</i>	10	33.2	± 6.0	25.2	45.0

Fish larvae unidentified	2	2.0	±	0.1	1.9	2.1
Herring unclassified	13	24.1	±	2.9	19.3	28.5
Other						
Miscellaneous	6	1.1	±	0.8	0.4	2.6

Table S3. Summary of prey sizes by family group. N=total number of prey items with size information; mean, minimum (Min), and maximum (Max) prey sizes measured within each group. All prey sizes are reported in centimeters (cm).

Prey type	N	Mean ± SD		Min	Max
Cephalopoda	5,506	12.5	± 7.0	0.1	49.3
Argonautidae	37	5.7	± 3.0	0.7	14.4
Brachioteuthidae	1	5.1	-	5.1	5.1
Chiroteuthidae	3	10.7	± 3.0	8.1	14.0
Chtenopterygidae	2	5.4	± 0.0	5.4	5.4
Cranchiidae	1	20.2	-	20.2	20.2
Enoploteuthidae	21	3.8	± 6.5	0.1	30.6
Gonatidae	1659	8.7	± 4.0	0.4	24.8
Histioteuthidae	63	4.1	± 4.6	0.1	24.0
Loliginidae	17	8.9	± 8.5	2.5	38.5
Octopoteuthidae	1	2.5	-	2.5	2.5
Ommastrephidae	3385	15.2	± 6.8	1.5	49.3
Onychoteuthidae	143	2.7	± 1.6	1.5	10.1
Pyroteuthidae	2	0.1	± 0.0	0.0	0.1
Sepiidae	1	21.7	-	21.7	21.7
Sepiolidae	26	1.8	± 1.0	1.0	5.8
Tremoctopodidae	22	4.9	± 4.6	1.3	17.2
Cephalopoda unidentified	122	12.1	± 5.6	2.2	24.0
Crustacea	502	3.5	± 2.7	1.1	16.2
Acanthephyridae	15	9.0	± 1.2	6.8	10.7
Amphipoda	15	2.0	± 0.2	1.6	2.2
Aristeidae	3	7.1	± 4.3	4.2	12.1
Cirolanidae	17	2.2	± 0.6	1.1	3.9
Euphausiidae	317	2.4	± 0.7	1.2	6.4
Pandalidae	2	7.9	± 6.5	3.3	12.5
Pasiphaeidae	27	11.0	± 3.1	2.6	16.2
Penaeidae	5	11.4	± 1.4	9.7	13.1
Polybiidae	16	4.1	± 1.0	3.1	7.2
Portunidae	71	3.5	± 0.3	2.3	4.1
Processidae	1	3.2	-	3.2	3.2
Sergestidae	11	6.5	± 1.9	1.4	8.2
Crustacea unidentified	2	6.8	± 0.4	6.5	7.1

Elasmobranch	34	43.6	±	18.2	16.0	80.0
Rajidae	18	30.9	±	11.2	16.0	49.0
Squalidae	15	58.4	±	13.4	42.0	80.0
Triakidae	1	49.0		-	49.0	49.0
Teleost	14,357	20.0	±	10.0	1.2	108.0
Alepisauridae	3	90.1	±	4.1	86.5	94.5
Ammodytidae	2,047	13.1	±	3.3	4.0	23.0
Anguillidae	15	39.7	±	13.8	24.0	77.5
Balistidae	1	6.8		-	6.8	6.8
Belonidae	99	35.5	±	7.4	13.4	59.0
Bramidae	1	17.0		-	17.0	17.0
Caproidae	51	2.6	±	2.1	1.2	12.0
Carangidae	107	17.2	±	10.5	3.4	59.3
Centranchidae	2	12.8	±	0.3	12.6	13.0
Clupeidae	1,833	25.5	±	3.9	4.5	34.1
Coryphaenidae	1	22.2		-	22.2	22.2
Cyclopteridae	5	12.1	±	7.5	4.0	23.8
Diodontidae	1	12.4		-	12.4	12.4
Engraulidae	184	8.9	±	3.7	3.0	16.0
Gadidae	607	16.7	±	8.5	2.8	75.0
Gobiidae	2	3.8	±	0.9	3.1	4.4
Gonostomatidae	2	4.8	±	1.5	3.8	5.9
Haemulidae	2	14.6	±	0.7	14.1	15.1
Labridae	6	16.1	±	5.6	8.5	22.4
Melamphaidae	450	8.8	±	2.3	2.4	13.7
Merlucciidae	135	21.4	±	7.4	10.6	46.7
Microstomatidae	6	9.5	±	4.1	4.5	14.9
Myctophidae	1,503	5.2	±	2.4	1.4	25.2
Nomeidae	1	19.7		-	19.7	19.7
Paralichthyidae	3	24.5	±	7.8	16.5	32.0
Paralepididae	5,900	27.2	±	5.4	1.3	56.5
Phosichthyidae	34	3.0	±	0.6	2.0	4.1
Phycidae	12	31.3	±	7.6	14.5	45.0
Pleuronectidae	34	23.6	±	4.4	14.0	30.3
Pomatomidae	13	51.4	±	20.3	20.8	79.0
Sciaenidae	3	27.0	±	5.7	20.9	32.2
Scorpaenidae	2	21.2	±	5.4	17.4	25.0
Scombridae	407	20.8	±	5.7	8.0	44.6
Scomberesocidae	21	10.4	±	2.6	7.5	19.0
Sebastidae	18	14.5	±	4.4	4.0	22.6
Sparidae	21	17.2	±	6.2	11.6	31.2
Sphyraenidae	1	28.0		-	28.0	28.0
Sternopthyichidae	362	4.1	±	1.0	2.4	7.3
Stomiidae	388	14.2	±	4.2	4.0	29.6
Stromateidae	24	11.8	±	3.4	5.0	17.8
Syngnathidae	2	19.3	±	17.9	6.6	31.9

Tetragonuridae	10	28.6	±	4.3	23.1	33.4
Trachinidae	1	27.1		-	27.1	27.1
Trichiuridae	9	54.0	±	26.1	12.0	108.0
Triglidae	1	17.5		-	17.5	17.5
Tetraodontidae	1	23.0		-	23.0	23.0
Teleost_Unid	26	19.3	±	7.7	1.9	28.5
Other						
Echinarachniidae	3	0.9	±	0.4	0.5	1.2
Mactridae	2	0.6	±	0.2	0.4	0.7
Miscellaneous	1	2.6		-	2.6	2.6

Table S4. Number of prey families observed or estimated in the ABFT stomach contents for each Longhurst province (LP) included in the diet database based on cumulative prey curves. GFST is not included as the database only includes a single sample from this LP. Size groups were based on corresponding splits in the CART analysis. Confidence limits are lower and upper 95%.

Longhurst Province	Size (SFL; cm)	Observed	Estimated	Standard Error	Lower Confidence Limit	Upper Confidence Limit
ARCT	≥79	7	12	5	7	22
CARB	≥79	17	44	27	17	97
CNRV	≥79	8	10	3	8	16
	<79	10	13	3	10	18
MEDI	≥79	88	110	13	88	135
	<79	45	55	10	45	74
NADR	≥79	11	12	2	11	16
	<79	5	5	0	5	6
NASE	≥79	13	16	4	13	24
NWCS	≥171	47	59	12	47	82
	<171	26	33	9	26	51
SARC	≥79	20	23	5	20	32

Table S5. Summary of splits for each node in the classification tree. 'Parent node': node number in the tree (see Figure2), split into left and right child nodes; 'Diversity': diversity index ranging from 0 to 1; 'ABFT': number of Atlantic bluefin tuna (*Thunnus thynnus*) partitioned at each node; 'N families': number of prey families in the ABFT diet composition at each node; 'Split': the predictor variable and its value splitting to the left side of each parent node, where Longhurst Province is in alphabetical order: CNRY, MEDI, NADR, NASE, NWCS, SARC and splits as "R" splits to the right and as "L" splits to the left, 'Length': straight fork length of ABFT (cm), 'SST': sea surface temperature (°C), 'ADT': absolute dynamic topography (m), 'SLA': sea level anomaly (m), <leaf> = terminal node; 'P class': the predicted prey family comprising the greatest mean proportion weight among all prey families in the diet composition at each node with C=cephalopods, Cr=crustaceans, F=fishes, respectively); 'Left child': node number resulting from parent node split to the left, 'Right child': node number resulting from parent node split to the right.

Parent node	Diversity	ABFT	N families	Split (to the left)	P class	Left child	Right child
				Longhurst Province splits as			
1	0.74	3105	14	RRRRLR	F-Clupeidae	2	3
2	0.48	1176	10	Year ≥ 2017	F-Clupeidae	4	5
3	0.77	1929	14	Length ≥ 79	F-Engraulidae	6	7
4	0.54	327	7	<leaf>	C-Ommastrephidae	--	--
5	0.40	849	10	Year < 1996	F-Clupeidae	10	11
				Longhurst Province splits as RRRR-			
6	0.76	1124	14	L	C-Ommastrephidae	12	13
7	0.50	805	13	Year < 2011	F-Engraulidae	14	15
10	0.48	326	5	SST ≥ 19.3	F-Ammodytidae	20	21
11	0.23	523	10	Length < 171	F-Clupeidae	22	23
12	0.51	310	8	SST ≥ 11.4	F-Paralepididae	24	25
13	0.86	814	14	ADT < 0.077	C-Ommastrephidae	26	27
14	0.80	306	13	SLA ≥ 0.16	F-Clupeidae	28	29
15	0.31	499	9	<leaf>	F-Engraulidae	--	--
20	0.20	95	5	<leaf>	F-Ammodytidae	--	--
21	0.54	231	4	SST < 18.805	F-Clupeidae	42	43
22	0.43	69	7	<leaf>	F-Ammodytidae	--	--
23	0.14	454	9	<leaf>	F-Clupeidae	--	--
24	0.44	133	6	<leaf>	C-Ommastrephidae	--	--
25	0.44	177	7	<leaf>	F-Paralepididae	--	--
26	0.81	512	14	Length ≥ 191	C-Ommastrephidae	52	53
27	0.69	302	13	Length < 148	Cr-Sergestidae	54	55
28	0.51	74	6	<leaf>	C-Ommastrephidae	--	--
29	0.74	232	13	Longhurst Province splits as LRL---	F-Clupeidae	58	59
42	0.38	144	4	<leaf>	F-Ammodytidae	--	--
43	0.13	87	4	<leaf>	F-Clupeidae	--	--
52	0.74	110	13	<leaf>	Cr-Polybiidae	--	--
53	0.80	402	14	Length < 110	C-Ommastrephidae	106	107
54	0.48	151	13	<leaf>	Cr-Sergestidae	--	--
55	0.70	151	10	<leaf>	F-Stomiidae	--	--
58	0.70	91	7	<leaf>	F-Carangidae	--	--
59	0.59	141	13	<leaf>	F-Clupeidae	--	--
106	0.76	100	13	<leaf>	F-Clupeidae	--	--
107	0.75	302	14	<leaf>	C-Ommastrephidae	--	--

Table S6. Total sample sizes and percentage of empty stomachs in Atlantic bluefin tuna (*Thunnus thynnus*; ABFT) diet datasets by Longhurst Province and gear type. Longhurst Provinces are ARCT (Atlantic Arctic), CARB (Caribbean), CNRY (Canary current coast), MEDI (Mediterranean Sea), NADR (North Atlantic drift), NASE (Northeast Atlantic subtropical gyre), NWCS (Northwest Atlantic shelves), and SARC (Atlantic sub-Arctic). Gear types are bait boat (BB), handline (HL), harpoon (HP), longline (LL), mid-water trawls (MWTD), purse seine (PS), rod and reel (RR), troll (TR), and unknown (UN). Data sets that did not include empty stomachs were excluded from sample size and % empty calculations.

		ARCT	CARB	CNRY	MEDI	NADR	NASE	NWCS	SARC
BB	N			322	182		94		
	% Empty			59	27		19		
HL	N							29	
	% Empty							24	
HP	N							47	
	% Empty							13	
LL	N		11		489				492
	% Empty		0		13				15
MWTD	N	10		2					
	% Empty	60		0					
PS	N				108			400	
	% Empty				41			47	
RR	N			342	974	44		1,113	
	% Empty			36	4	32		19	
TR	N				31				
	% Empty				3				
UN	N							285	
	% Empty							14	