

1 **Supplementary Material**

2 Supplementary Table 1. List of all species used in this study. Also includes the zonal strata (P: Pelagic, D: Demersal) and if the
3 species is under a commercial fishery as of April 2020.

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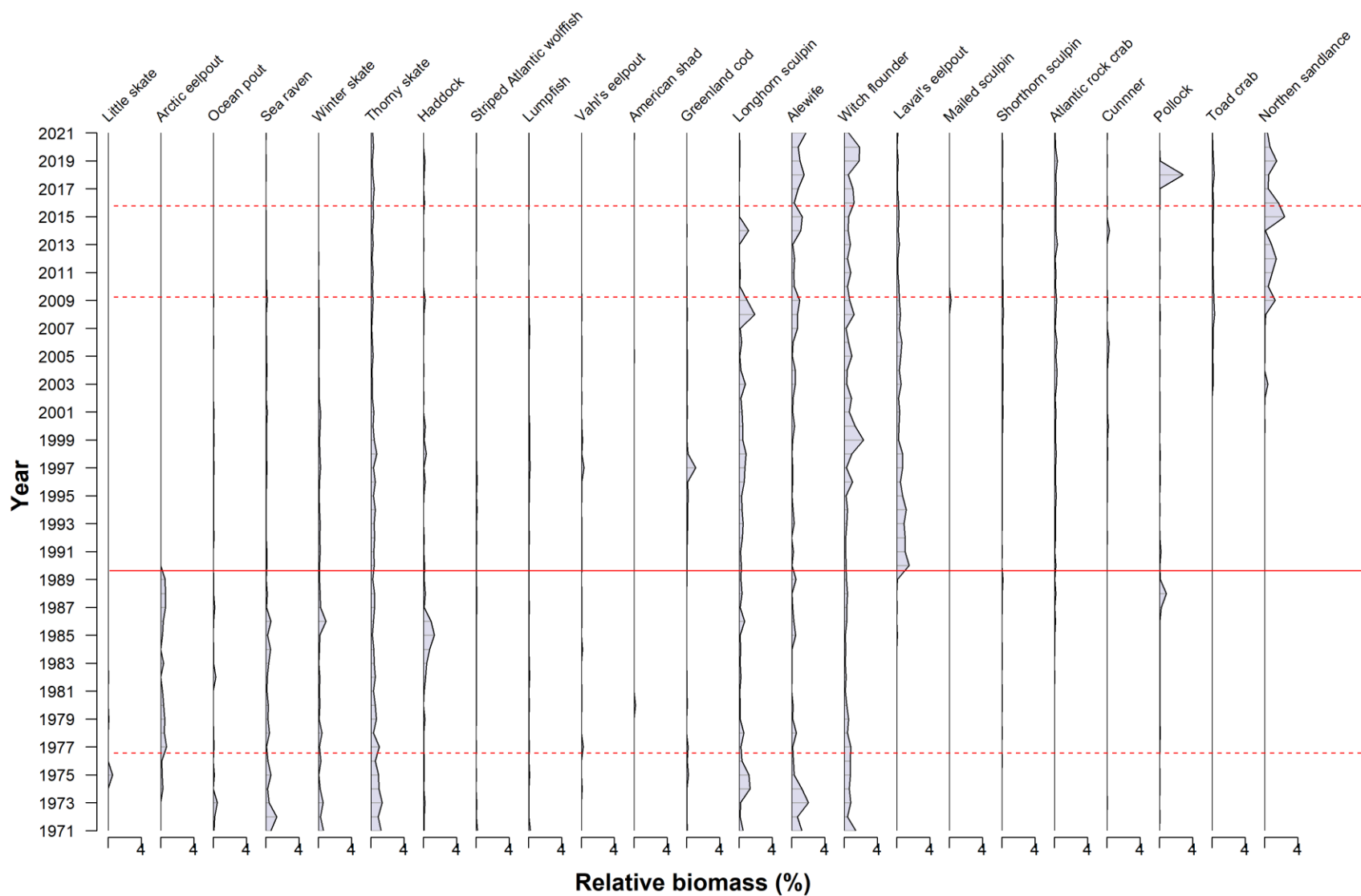
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Latin name	English name	Zonal strata	Com. species
<i>Alosa pseudoharengus</i>	Alewife	P	x
<i>Alosa sapidissima</i>	American shad	P	
<i>Amblyraja radiata</i>	Thorny skate	D	x
<i>Ammodytes dubius</i>	Northern sand lance	D	
<i>Anarhichas denticulatus</i>	Northern wolffish	D	
<i>Anarhichas lupus</i>	Striped Atlantic wolffish	D	
<i>Anarhichas minor</i>	Spotted wolffish	D	
<i>Anguilla rostrata</i>	American eel	D	
<i>Apeltes quadracus</i>	Four-spine stickleback	D	
<i>Argentina silus</i>	Greater argentine	D	
<i>Artedius atlanticus</i>	Atlantic hookear sculpin	D	
<i>Artedius uncinatus</i>	Arctic hookear sculpin	D	
<i>Aspidophoroides monopterygius</i>	Alligatorfish	D	
<i>Aspidophoroides olreri</i>	Arctic alligatorfish	D	
<i>Bathyraxia spinicauda</i>	Spinytail skate	D	
<i>Boreogadus saida</i>	Arctic cod	P	
<i>Brevoortia tyrannus</i>	Atlantic menhaden	P	
<i>Caenorhynchus caenorhynchus</i>	Longnose grenadier	D	
<i>Cancer borealis</i>	Jonah crab	D	
<i>Cancer irroratus</i>	Atlantic rock crab	D	
<i>Careproctus longipinnis</i>	Longfin seasnail	D	
<i>Careproctus reinhardtii</i>	Sea tadpole	D	
<i>Centroscyllium fabricii</i>	Black dogfish	D	
<i>Chaceon quinquefasciatus</i>	Red deepsea crab	D	
<i>Chauliodon sloani</i>	Sloane's viperfish	D	
<i>Chionoecetes opilio</i>	Snow crab	D	x
<i>Clupea harengus</i>	Atlantic herring	P	x
<i>Coryphaenoides rupestris</i>	Roundnose grenadier	D	
<i>Cottunculus microps</i>	Polar sculpin	D	
<i>Cottunculus thompsoni</i>	Pallid sculpin	D	
<i>Cryptacanthodes maculatus</i>	Wrymouth	D	
<i>Cyclopterus lumpus</i>	Lumpfish	D	
<i>Cyclothone microdon</i>	Veiled anglemouth	D	
<i>Decapoda spp.</i>	Shrimps	na	x
<i>Dipturus laevis</i>	Barndoor skate	D	
<i>Enchelyopus cimbrius</i>	Fourbeard rockling	D	
<i>Eumesogrammus praecisus</i>	Fourline snakeblenny	D	
<i>Eumicrotremus derjugini</i>	Leatherfin lumpsucker	D	
<i>Eumicrotremus spinosus</i>	Atlantic spiny lumpsucker	D	
<i>Gadus morhua</i>	Atlantic cod	D	x
<i>Gadus ogac</i>	Greenland cod	D	
<i>Gaidropsarus ensis</i>	Threebeard rockling	D	

Latin name	English name	Zonal strata	Com. species
<i>Gasterosteus aculeatus</i>	Three-spine stickleback	D	
<i>Glyptocephalus cynoglossus</i>	Witch flounder	D	x
<i>Gymnelis viridis</i>	Fish doctor	D	
<i>Gymnocranthus tricuspidatus</i>	Arctic staghorn sculpin	D	
<i>Helicolenus dactylopterus</i>	Blackbelly rosefish	D	
<i>Hemitripterus americanus</i>	Sea raven	D	
<i>Hippoglossoides platessoides</i>	American plaice	D	x
<i>Hippoglossus hippoglossus</i>	Atlantic halibut	D	x
<i>Homarus americanus</i>	American lobster	D	x
<i>Hyas araneus</i>	Toad crab	D	
<i>Icelus bicornis</i>	Twohorn sculpin	D	
<i>Icelus spatula</i>	Spatulate sculpin	D	
<i>Lampadena speculigera</i>	Mirror lanternfish	P	
<i>Leptagonus decagonus</i>	Atlantic sea poacher	D	
<i>Leucoraja erinacea</i>	Little skate	D	
<i>Leucoraja ocellata</i>	Winter skate	D	x
<i>Limanda ferruginea</i>	Yellowtail flounder	D	x
<i>Liparis atlanticus</i>	Atlantic seasnail	D	
<i>Liparis coheni</i>	Gulf snailfish	D	
<i>Liparis fabricii</i>	Gelatinous snailfish	D	
<i>Liparis gibbus</i>	Variegated snailfish	D	
<i>Liparis liparis</i>	Striped seasnail	D	
<i>Liparis tunicatus</i>	Greenland seasnail	D	
<i>Lithodes maja</i>	Northern stone crab	D	
<i>Lophius americanus</i>	American angler	D	
<i>Lumpenus fabricii</i>	Slender eelblenny	D	
<i>Lumpenus lumpretaeformis</i>	Snake blenny	D	
<i>Lumpenus maculatus</i>	Daubed shanny	D	
<i>Lumpenus medius</i>	Stout eelblenny	D	
<i>Lycenchelys paxillus</i>	Common wolf eel	D	
<i>Lycenchelys verrilli</i>	Wolf eelpout	D	
<i>Lycodes esmarki</i>	Esmark's eelpout	D	
<i>Lycodes lavalaei</i>	Laval's eelpout	D	
<i>Lycodes pallidus</i>	Pale eelpout	D	
<i>Lycodes polaris</i>	Polar eelpout	D	
<i>Lycodes reticulatus</i>	Arctic eelpout	D	
<i>Lycodes terraenovae</i>	Atlantic eelpout	D	
<i>Lycodes vahliei</i>	Vahl's eelpout	D	
<i>Macrozoarces americanus</i>	Ocean pout	D	
<i>Malacoraja senta</i>	Smooth skate	D	x
<i>Mallotus villosus</i>	Capelin	P	x
<i>Melanogrammus aeglefinus</i>	Haddock	D	x

Latin name	English name	Zonal strata	Com. species
<i>Melanostigma atlanticum</i>	Atlantic soft pout	D	
<i>Menidia menidia</i>	Atlantic silverside	P	x
<i>Merluccius bilinearis</i>	Silver hake	D	
<i>Microgadus tomcod</i>	Atlantic tomcod	D	
<i>Morone saxatilis</i>	Striped bass	D	
<i>Myoxocephalus aeneus</i>	Grubby	D	
<i>Myoxocephalus octodecemspinosus</i>	Longhorn sculpin	D	
<i>Myoxocephalus scorpioides</i>	Arctic sculpin	D	
<i>Neolithodes grimaldii</i>	Porcupine crab	D	
<i>Nezumia bairdii</i>	Marlin-spike grenadier	D	
<i>Notolepis rissoi</i>	White barracudina	P	
<i>Osmerus mordax</i>	Rainbow smelt	P	x
<i>Paralepis coregonoides</i>	Paralepis coregonoides	P	
<i>Paraliparis calidus</i>	Lowfin snailfish	D	
<i>Peprilus triacanthus</i>	American butterfish	P	
<i>Petromyzon marinus</i>	Sea lamprey	D	
<i>Pholis fasciata</i>	Banded gunnel	D	
<i>Pholis gunnellus</i>	Rock gunnel	D	
<i>Pollachius virens</i>	Pollock	D	x
<i>Pseudophichthus splendens</i>	Pseudophichthus splendens	D	
<i>Pseudopleuronectes americanus</i>	Winter flounder	D	x
<i>Reinhardtius hippoglossoides</i>	Greenland halibut	D	x
<i>Rouleina maderensis</i>	Madeiran smooth-head	D	
<i>Salmo salar</i>	Atlantic salmon	P	
<i>Scomber scombrus</i>	Atlantic mackerel	P	x
<i>Scomberesox saurus</i>	Atlantic saury	P	
<i>Scophthalmus aquosus</i>	Windowpane flounder	D	
<i>Sebastes mentella</i>	Deepwater Redfish	D	
<i>Sebastes sp.</i>	Redfish unidentified	D	
<i>Squalus acanthias</i>	Spiny dogfish	D	
<i>Stichaeus punctatus</i>	Arctic shanny	D	
<i>Stomias boa</i>	Boa dragonfish	D	
<i>Tautoglabrus adspersus</i>	Cunner	D	
<i>Triglops murrayi</i>	Mailed sculpin	D	
<i>Ulvaria subbifurcata</i>	Radiated shanny	D	
<i>Urophycis chesteri</i>	Longfin hake	D	
<i>Urophycis chuss</i>	Red hake	D	
<i>Urophycis tenuis</i>	White hake	D	x



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25 Supplementary Figure 1. The relative biomass of 23 taxa in addition to the 17 taxa with highest relative abundances shown in Figure 3. These
 26 taxa have a relative biomass of between 0.17 – 3.39 % biomass in at least one year across the time series. The solid red line indicates the regime
 27 shift identified in the study and the dotted lines denote each identified subperiod.