

ANNEX XI

Dominance frequencies for the abundance (a) and biomass (b) values of each fish and cephalopod species discarded by crustacean and fish trawl métiers.

Bycatch and discards of commercial trawl fisheries in the South coast of Portugal

a)

| Species | CRUSTACEAN | Species | FISH TRAWL |
|--------------------------------------|---------------|----------------------------------|---------------|
| | TRAWL | | Dominance (%) |
| | Dominance (%) | | Dominance (%) |
| <i>Micromesistius poutassou</i> | 17.6 | <i>Macroramphosus scolopax</i> | 35.4 |
| <i>Macroramphosus scolopax</i> | 15.5 | <i>Macroramphosus gracilis</i> | 12.8 |
| <i>Macroramphosus gracilis</i> | 15.3 | <i>Capros aper</i> | 8.9 |
| <i>Capros aper</i> | 11.9 | <i>Serranus hepatus</i> | 5.2 |
| <i>Nezumia sclerorhynchus</i> | 6.4 | <i>Scomber colias</i> | 4.0 |
| <i>Galeus melastomus</i> | 6.1 | <i>Micromesistius poutassou</i> | 3.7 |
| <i>Merluccius merluccius</i> | 3.1 | <i>Merluccius merluccius</i> | 3.3 |
| <i>Hoplostethus m. mediterraneus</i> | 2.8 | <i>Scyliorhinus canicula</i> | 3.3 |
| <i>Gadiculus a. argenteus</i> | 2.4 | <i>Boops boops</i> | 2.4 |
| <i>Etmopterus spinax</i> | 1.9 | <i>Sardina pilchardus</i> | 2.0 |
| <i>Conger conger</i> | 1.9 | <i>Lepidotrigla cavillone</i> | 1.5 |
| <i>Lepidopus caudatus</i> | 1.5 | <i>Scomber scombrus</i> | 1.3 |
| <i>Symphurus ligulatus</i> | 1.2 | <i>Microchirus boscanion</i> | 1.1 |
| <i>Etmopterus pusillus</i> | 0.9 | <i>Chelidonichthys cuculus</i> | 1.0 |
| <i>Scyliorhinus canicula</i> | 0.8 | <i>Alloteuthis subulata</i> | 1.0 |
| <i>Venefica proboscidea</i> | 0.7 | <i>Citharus linguatula</i> | 0.9 |
| <i>Synaphobranchus kaupii</i> | 0.7 | <i>Scorpaena notata</i> | 0.8 |
| <i>Malacocephalus laevis</i> | 0.7 | <i>Microchirus variegatus</i> | 0.7 |
| <i>Illex coindetii</i> | 0.7 | <i>Lepidopus caudatus</i> | 0.7 |
| <i>Phycis blennioides</i> | 0.6 | <i>Arnoglossus thori</i> | 0.6 |
| <i>Deania calceus</i> | 0.5 | <i>Arnoglossus imperialis</i> | 0.6 |
| <i>Helicolenus dactylopterus</i> | 0.5 | <i>Lepidotrigla dieuzeidei</i> | 0.6 |
| <i>Alloteuthis subulata</i> | 0.5 | <i>Pagellus acarne</i> | 0.6 |
| <i>Mora moro</i> | 0.5 | <i>Lesueurigobius sanzi</i> | 0.5 |
| <i>Gaidropsaurus biscayensis</i> | 0.4 | <i>Callionymus maculatus</i> | 0.5 |
| <i>Chimaera monstrosa</i> | 0.4 | <i>Trachurus picturatus</i> | 0.4 |
| <i>Todaropsis eblanae</i> | 0.2 | <i>Conger conger</i> | 0.4 |
| <i>Eledone cirrhosa</i> | 0.2 | <i>Sepia elegans</i> | 0.4 |
| <i>Arnoglossus rueppelii</i> | 0.2 | <i>Helicolenus dactylopterus</i> | 0.4 |
| <i>Torpedo nobiliana</i> | 0.2 | <i>Trachurus trachurus</i> | 0.3 |
| <i>Microchirus azevia</i> | 0.2 | <i>Argentina sphyraena</i> | 0.3 |
| <i>Coelorinchus caelorinchus</i> | 0.2 | <i>Sepia orbignyana</i> | 0.3 |
| <i>Trachurus trachurus</i> | 0.2 | <i>Illex coindetii</i> | 0.3 |
| <i>Benthodesmus elongatus</i> | 0.2 | <i>Alloteuthis media</i> | 0.3 |
| <i>Myctophidae n.i.</i> | 0.2 | <i>Arnoglossus laterna</i> | 0.3 |
| <i>Chlorophthalmus agassizi</i> | 0.2 | <i>Zeus faber</i> | 0.2 |
| <i>Polymetme corythaeola</i> | 0.1 | <i>Arnoglossus rueppelii</i> | 0.2 |
| <i>Neorossia caroli</i> | 0.1 | <i>Cepola macrophthalma</i> | 0.2 |
| <i>Sepietta oweniana</i> | 0.1 | <i>Chelidonichthys obscurus</i> | 0.2 |
| <i>Notacanthus chemnitzii</i> | 0.1 | <i>Engraulis encrasicolus</i> | 0.2 |
| <i>Sphoeroides pachygaster</i> | 0.1 | <i>Callionymus lyra</i> | 0.2 |
| <i>Sepia elegans</i> | 0.1 | <i>Gadiculus a. argenteus</i> | 0.2 |
| <i>Synchiropus phaeton</i> | 0.1 | <i>Leucoraja naevus</i> | 0.1 |
| <i>Dipturus oxyrinchus</i> | 0.1 | <i>Scaevargus unicolor</i> | 0.1 |
| <i>Scorpaena notata</i> | 0.1 | <i>Loligo vulgaris</i> | 0.1 |
| <i>Rossia macrosoma</i> | 0.1 | <i>Raja clavata</i> | 0.1 |
| <i>Abralia veranyi</i> | 0.1 | <i>Trigla lyra</i> | 0.1 |
| <i>Serranus hepatus</i> | 0.1 | <i>Spondylisoma cantharus</i> | 0.1 |
| <i>Eledone moschata</i> | 0.1 | <i>Trachurus mediterraneus</i> | 0.1 |
| <i>Trigloporus lastoviza</i> | 0.1 | <i>Trigloporus lastoviza</i> | 0.1 |
| <i>Raja clavata</i> | 0.1 | <i>Alloteuthis spp</i> | 0.1 |
| <i>Epigonus telescopus</i> | 0.1 | <i>Chelidonichthys lucerna</i> | 0.1 |
| <i>Chelidonichthys lucerna</i> | 0.1 | <i>Serranus cabrilla</i> | 0.1 |
| <i>Facciolella oxyrhyncha</i> | 0.1 | <i>Pontinus kuhlii</i> | 0.1 |
| <i>Scaevargus unicolor</i> | 0.1 | | |

b)

| Species | CRUSTACEAN | Species | FISH TRAWL |
|--------------------------------------|---------------|----------------------------------|---------------|
| | TRAWL | | Dominance (%) |
| | Dominance (%) | | Dominance (%) |
| <i>Micromesistius poutassou</i> | 27.4 | <i>Scomber colias</i> | 16.2 |
| <i>Galeus melastomus</i> | 7.7 | <i>Scyliorhinus canicula</i> | 14.8 |
| <i>Capros aper</i> | 6.7 | <i>Macroramphosus scolopax</i> | 10.7 |
| <i>Conger conger</i> | 6.4 | <i>Boops boops</i> | 7.9 |
| <i>Chimaera monstrosa</i> | 4.4 | <i>Macroramphosus gracilis</i> | 5.5 |
| <i>Macroramphosus scolopax</i> | 4.3 | <i>Capros aper</i> | 4.4 |
| <i>Macroramphosus gracilis</i> | 4.2 | <i>Scomber scombrus</i> | 4.2 |
| <i>Torpedo nobiliana</i> | 3.7 | <i>Serranus hepatus</i> | 4.0 |
| <i>Scyliorhinus canicula</i> | 3.0 | <i>Micromesistius poutassou</i> | 4.0 |
| <i>Nezumia sclerorhynchus</i> | 2.9 | <i>Sardina pilchardus</i> | 3.2 |
| <i>Illex coindetii</i> | 2.9 | <i>Merluccius merluccius</i> | 2.8 |
| <i>Merluccius merluccius</i> | 2.8 | <i>Trachurus picturatus</i> | 1.5 |
| <i>Etmopterus spinax</i> | 2.6 | <i>Lepidotrigla cavillone</i> | 1.4 |
| <i>Lepidopus caudatus</i> | 1.7 | <i>Conger conger</i> | 1.3 |
| <i>Etmopterus pusillus</i> | 1.6 | <i>Scorpaena notata</i> | 1.2 |
| <i>Phycis blennoides</i> | 1.6 | <i>Lepidopus caudatus</i> | 1.1 |
| <i>Deania calceus</i> | 1.4 | <i>Leucoraja naevus</i> | 1.1 |
| <i>Eledone cirrhosa</i> | 1.3 | <i>Pagellus acarne</i> | 1.0 |
| <i>Hoplostethus m. mediterraneus</i> | 1.2 | <i>Trachurus trachurus</i> | 0.8 |
| <i>Dalatias licha</i> | 1.1 | <i>Citharus linguatula</i> | 0.8 |
| <i>Malacocephalus laevis</i> | 1.1 | <i>Microchirus variegatus</i> | 0.7 |
| <i>Helicolenus dactylopterus</i> | 0.8 | <i>Helicolenus dactylopterus</i> | 0.7 |
| <i>Trachurus trachurus</i> | 0.8 | <i>Balistes capriscus</i> | 0.7 |
| <i>Sphoeroides pachygaster</i> | 0.6 | <i>Chelidonichthys cuculus</i> | 0.7 |
| <i>Hexanchus griseus</i> | 0.6 | <i>Illex coindetii</i> | 0.6 |
| <i>Gadiculus a. argenteus</i> | 0.6 | <i>Microchirus boscanion</i> | 0.6 |
| <i>Todaropsis eblanae</i> | 0.6 | <i>Raja clavata</i> | 0.5 |
| <i>Centrophorus granulosus</i> | 0.5 | <i>Chelidonichthys obscurus</i> | 0.5 |
| <i>Benthodesmus elongatus</i> | 0.5 | <i>Cepola macrophthalma</i> | 0.5 |
| <i>Ruvettus pretiosus</i> | 0.4 | <i>Lepidotrigla dieuzeidei</i> | 0.5 |
| <i>Chelidonichthys lucerna</i> | 0.4 | <i>Zeus faber</i> | 0.4 |
| <i>Symphurus ligulatus</i> | 0.3 | <i>Callionymus lyra</i> | 0.4 |
| <i>Dipturus oxyrinchus</i> | 0.3 | <i>Eledone moschata</i> | 0.3 |
| <i>Venefica proboscidea</i> | 0.3 | <i>Trachurus mediterraneus</i> | 0.3 |
| <i>Eledone moschata</i> | 0.3 | <i>Spondylisoma cantharus</i> | 0.3 |
| <i>Raja clavata</i> | 0.3 | <i>Arnoglossus imperialis</i> | 0.3 |
| <i>Trigloporus lastoviza</i> | 0.2 | <i>Sepia orbignyana</i> | 0.3 |
| <i>Mora moro</i> | 0.2 | <i>Pontinus kuhlii</i> | 0.2 |
| <i>Octopus salutii</i> | 0.2 | <i>Raja undulata</i> | 0.2 |
| <i>Scymnodon ringens</i> | 0.2 | <i>Arnoglossus thori</i> | 0.2 |
| <i>Trachurus picturatus</i> | 0.2 | <i>Scaevurgus unicirrhus</i> | 0.2 |
| <i>Synphobranchus kaupii</i> | 0.1 | <i>Rossia macrosoma</i> | 0.2 |
| <i>Neorossia caroli</i> | 0.1 | <i>Serranus cabrilla</i> | 0.1 |
| <i>Citharus linguatula</i> | 0.1 | <i>Alloteuthis subulata</i> | 0.1 |
| <i>Gaidropsaurus biscayensis</i> | 0.1 | <i>Engraulis encrasicolus</i> | 0.1 |
| <i>Chlorophthalmus agassizi</i> | 0.1 | <i>Sepia elegans</i> | 0.1 |
| <i>Phycis phycis</i> | 0.1 | <i>Callionymus maculatus</i> | 0.1 |
| <i>Raja undulata</i> | 0.1 | <i>Lophius piscatorius</i> | 0.1 |
| <i>Scaevurgus unicirrhus</i> | 0.1 | <i>Arnoglossus laterna</i> | 0.1 |
| <i>Notacanthus chemnitzii</i> | 0.1 | <i>Argentina sphyraena</i> | 0.1 |
| <i>Sepia orbignyana</i> | 0.1 | <i>Todaropsis eblanae</i> | 0.1 |
| <i>Torpedo marmorata</i> | 0.1 | <i>Trigloporus lastoviza</i> | 0.1 |
| <i>Polymetme corythaeola</i> | 0.1 | <i>Raja montagui</i> | 0.1 |
| <i>Microchirus azevia</i> | 0.1 | <i>Loligo vulgaris</i> | 0.1 |
| <i>Pagellus acarne</i> | 0.1 | <i>Arnoglossus rueppelii</i> | 0.1 |
| <i>Arnoglossus rueppelii</i> | 0.1 | <i>Trachinus draco</i> | 0.1 |
| <i>Setarches guentheri</i> | 0.1 | <i>Trigla lyra</i> | 0.1 |
| <i>Todarodes sagittatus</i> | 0.1 | <i>Lophius budegassa</i> | 0.1 |
| | | <i>Chelidonichthys lucerna</i> | 0.1 |