



APPENDIX 5: BY-CATCH SPECIES

A.5 By-catch species

By-catch is the unintentional/incidental capture of non-target species during fishing operations. Different types of fisheries have different types and levels of by-catch, depending on the gear used, the time, area and depth fished, etc. Article IV of the Convention states: "the Commission shall be responsible for the study of the population of tuna and tuna-like fishes (the Scombriformes with the exception of Trichiuridae and Gempylidae and the genus Scomber) and such other species of fishes exploited in tuna fishing in the Convention area as are not under investigation by another international fishery organization".

The following is a list of by-catch species recorded as being ever caught by any major tuna fishery in the Atlantic/Mediterranean. Note that the lists are qualitative and are not indicative of quantity or mortality. Thus, the presence of a species in the lists does not imply that it is caught in significant quantities, or that individuals that are caught necessarily die.

Skates and rays									
Scientific names	Common name	Code	LL	GILL	PS	BB	HARP	TRAP	OTHER
<i>Dasyatis centroura</i>	Roughtail stingray	RDC	X						
<i>Dasyatis violacea</i>	Pelagic stingray	PLS	X	X	X		X		
<i>Manta birostris</i>	Manta ray	RMB	X	X	X				
<i>Mobula hypostoma</i>		RMH	X						
<i>Mobula lucasana</i>					X				
<i>Mobula mobular</i>	Devil ray	RMM	X	X	X		X		X
<i>Myliobatis aquila</i>	Common eagle ray	MYL	X	X					
<i>Pteuromylaeus bovinus</i>	Bull ray	MPO	X	X					
<i>Raja fullonica</i>	Shagreen ray	RJF	X						
<i>Raja straeleni</i>	Spotted skate	RFL	X						
<i>Rhinoptera spp</i>	Cownose ray				X				
<i>Torpedo nobiliana</i>	Torpedo ray	TTO	X	X	X				
Coastal sharks									
Scientific names	Common name	Code	LL	GILL	PS	BB	HARP	TRAP	OTHER
<i>Carcharhinus altimus</i>	Bignose shark	CCA	X						
<i>Carcharhinus brachyurus</i>	Copper shark	BRO	X	X					
<i>Carcharhinus brevipinna</i>	Spinner shark	CCB	X	X					
<i>Carcharhinus galapagensis</i>	Galapagos shark	CCG	X						
<i>Carcharhinus leucas</i>	Bull shark	CCE	X						
<i>Carcharhinus limbatus</i>	Blacktip shark	CCL	X	X					X
<i>Carcharhinus obscurus</i>	Dusky shark	DUS	X	X					
<i>Carcharhinus perezi</i>	Caribbean reef shark	CCV	X						
<i>Carcharhinus plumbeus</i>	Sandbar shark	CCP	X	X				X	
<i>Carcharhinus porosus</i>	Smalltail shark	CCR	X						

<i>Carcharhinus signatus</i>	Night shark	CCS	X						
<i>Carcharias taurus</i>	Sand tiger shark	CCT	X	X			X		X
<i>Carcharodon carcharias</i>	(Great) White shark	WSH	X	X	X		X	X	X
<i>Centrophorus granulosus</i>	Gulper shark	GUP	X						
<i>Centroscymnus crepidater</i>	Longnose velvet dogfish	CYP	X						
<i>Cetorhinus maximus</i>	Basking shark	BSK	X	X			X		
<i>Deania calcea</i>	Birdbeak dogfish	DCA	X						
<i>Etmopterus spinax</i>	Velvet belly	ETX	X						
<i>Galeocerdo cuvieri</i>	Tiger shark	TIG	X	X					
<i>Galeorhinus galeus</i>	Tope shark	GAG	X	X					
<i>Galeus melastomus</i>	Blackmouth catshark	SHO		X					X
<i>Heptranchias perlo</i>	Sharpnose sevengill shark	HXT	X	X					X
<i>Hexanchus griseus</i>	Bluntnose sixgill shark	SBL	X	X			X		X
<i>Megachasma pelagios</i>	Megamouth shark	LMP	X						
<i>Mustelus asterias</i>	Starry smoothhound	SDS	X	X					
<i>Mustelus canis</i>	Dusky smooth-hound	CTI	X						
<i>Mustelus morrisi</i>	Narrowfin smooth-hound	MTR	X						
<i>Mustelus mustelus</i>	Smoothhound	SMD	X	X			X		X
<i>Negaprion brevirostris</i>	Lemon shark	NGB	X						
<i>Odontaspis ferox</i>	Smalltooth sand shark	LOO	X	X			X		X
<i>Odontaspis noronhai</i>	Smalltooth sand tiger	ODH	X						
<i>Rhincodon typus</i>	Whale shark	RHN	X		X				
<i>Rhizoprionodon porosus</i>	Caribbean sharpnose shark	RHR	X						
<i>Rhizoprionodon terraenovae</i>	Atlantic sharpnose shark	RHT	X						
<i>Somniosus microcephalus</i>	Greenland shark	GSK	X						
<i>Sphyrna lewini</i>	Scalloped hammerhead	SPL	X	X	X				
<i>Sphyrna mokarran</i>	Great hammerhead	SPK	X		X				
<i>Sphyrna spp</i>	Hammerhead	SPN	X	X	X				
<i>Sphyrna zygaena</i>	Smooth hammerhead	SPZ	X	X	X		X		X
<i>Squaliolus laticaudus</i>	Spined pygmy shark	QUL	X						
<i>Squalus acanthias</i>	Spurdog fish	DGS	X						
<i>Squalus blainvielli</i>	Longnose spurdog	QUB	X						
<i>Squalus cubensis</i>	Cuban dogfish	QUC	X						
<i>Squatina aculeata</i>	Sawback angelshark	SUA	X						
<i>Squatina oculata</i>	Smoothback angelshark	SUT	X						
<i>Squatina squatina</i>	Angelshark	AGN	X						
Pelagic sharks									
Scientific names	Common name	Code	LL	GILL	PS	BB	HARP	TRAP	OTHER
<i>Alopias superciliuosus</i>	Bigeye thresher	BTH	X	X			X		
<i>Alopias vulpinus</i>	Common thresher	ALV	X	X			X	X	X
<i>Carcharhinus falciformis</i>	Silky shark	FAL	X	X	X				
<i>Carcharhinus longimanus</i>	Oceanic whitetip shark	OCS	X		X				
<i>Isistius brasiliensis</i>	Cookiecutter shark	ISB			X				
<i>Isurus oxyrinchus</i>	Shortfin mako	SMA	X	X	X		X		
<i>Isurus paucus</i>	Longfin mako	LMA	X	X					X
<i>Lamna nasus</i>	Porbeagle	POR	X	X			X		X

<i>Prionace glauca</i>	Blue shark	BSH	X	X	X		X	X	X
<i>Pseudocarcharias kamoharai</i>	Crocodile shark	PCH	X						
<i>Zameus squamulosus</i>	Velvet dogfish	SSQ	X						
Teleosts (ICCAT Species)									
Scientific names	Common name	Code	LL	GILL	PS	BB	HARP	TRAP	OTHER
<i>Acanthocybium solandri</i>	Wahoo	WAH	X		X				
<i>Auxis rochei</i>	Bullet tuna	FRT	X	X	X	X		X	X
<i>Auxis thazard</i>	Frigate tuna	FRT	X	X	X				X
<i>Euthynnus alletteratus</i>	Atlantic little tuna	LTA	X	X	X	X		X	X
<i>Istiophorus albicans</i>	Sailfish	SAI	X	X	X				X
<i>Katsuwonus pelamis</i>	Skipjack tuna	SKJ	X	X	X	X			X
<i>Makaira nigricans</i>	Blue marlin	BUM	X	X	X		X		X
<i>Orcinopsis unicolor</i>	Plain bonito	BOP	X						
<i>Sarda sarda</i>	Bonito	BON	X	X		X		X	X
<i>Scomberomorus brasiliensis</i>	Serra Spanish mackerel	SER	X	X					
<i>Scomberomorus cavalla</i>	King mackerel	KGM	X	X					
<i>Scomberomorus tritor</i>	Spotted Spanish Mackerel	SSM	X	X	X				
<i>Tetrapturus angustirostris</i>	Shortbill spearfish	SPF	X						
<i>Tetrapterus pfluegeri</i>	Longbill spearfish	SPF	X		X				
<i>Tetrapturus albidus</i>	White marlin	WHM	X	X	X		X		
<i>Tetrapturus belone</i>	Mediterranean spearfish	MPF	X	X			X	X	X
<i>Tetrapturus georgii</i>	Round scale spearfish	RSP	X						
<i>Thunnus alalunga</i>	Albacore	ALB	X	X	X	X	X		X
<i>Thunnus albacares</i>	Yellowfin tuna	YFT	X	X	X	X			
<i>Thunnus atlanticus</i>	Blackfin tuna	BLT	X	X	X	X			
<i>Thunnus obesus</i>	Bigeye tuna	BET	X	X	X	X			
<i>Thunnus thynnus</i>	Bluefin tuna	BFT	X	X	X	X	X	X	X
<i>Xiphias gladius</i>	Swordfish	SWO	X	X	X		X	X	X
Teleosts (excluding Scombridae and billfishes)									
Scientific names	Common name	Code	LL	GILL	PS	BB	HARP	TRAP	OTHER
<i>Abalistes stellatus</i>					X				
<i>Alepisaurus spp</i>	Lancet fish	ALI	X						
<i>Alepisaurus brevirostris</i>	Shortnose lancetfish	ALO	X						
<i>Alepisaurus ferox</i>	Longnose lancetfish	ALX	X						
<i>Alutera punctata</i>					X				
<i>Aphanopus carbo</i>	black scabbardfish		X						
<i>Balistes carolinensis</i>	Grey triggerfish	TRG		X	X				X
<i>Balistes punctatus</i>					X				
<i>Balistidae spp</i>	Triggerfish	TRI	X	X					
<i>Belone belone</i>	Needlefish	GAR		X					X
<i>Belonidae</i>	Needlefish	BES			X				
<i>Brama brama</i>	Atlantic pomfret	POA	X	X				X	X
<i>Brama raii</i>	Pomfret			X					
<i>Campogramma glaycos</i>	Vadigo	VAD	X						X
<i>Canthidermis maculatus</i>	Rough triggerfish	CNT			X				
<i>Caranx crysos</i>	Blue runner	RUB			X				X

<i>Caranx hippos</i>	Crevalle jack	CVJ	X	X					X
<i>Centrolophus niger</i>	Black ruff	CEO		X					X
<i>Coryphaena equiselis</i>	Pompano dolphin fish	CFW	X	X	X	X			X
<i>Coryphaena hippurus</i>	Dolphin fish	DOL	X	X	X				X
<i>Cubiceps spp</i>	Bigeye cigarfish	CUP	X						
<i>Diodon hystrix</i>	Porcupinefish	DIY				X			
<i>Echeneidae</i>	Remora			X					
<i>Elagatis bipinnulata</i>	Rainbow runner	RRU	X		X				
<i>Engraulis encrasicolus</i>	European anchovy	ANE		X					
<i>Epinephelus spp</i>	Grouper	GPX	X						
<i>Euleptorhamphus velox</i>	Flying halfbeak					X			
<i>Exocoetidae</i>	Flying fish					X			
<i>Gadus morhua</i>	Cod	COD	X						
<i>Gempylus serpens</i>	Snake mackerel	GES	X						
<i>Hippocampus guttulatus</i>	Common seahorse			X					
<i>Hirundichthys rondeleti</i>	Blackwing flyingfish	HDR		X					
<i>Kyphosus sectator</i>	Bermuda chub					X			
<i>Lampris guttatus</i>	Opah	LAG	X	X	X				
<i>Lepidocybium flavobrunneum</i>	Escolar	LEC	X	X					
<i>Lepidopus caudatus</i>	Silver scabbardfish	SFS							X
<i>Lichia amia</i>	Leerfish	LEE		X					X
<i>Lobotes surinamensis</i>	Tripletail	LOB	X		X				
<i>Lophius americanus</i>	Goosefish	ANG	X						
<i>Lophius piscatorius</i>	Monk fish	MON	X						
<i>Luvarus imperialis</i>	Luvar	LVM	X						X
<i>Macrouridae</i>	Rat-tail		X						
<i>Masturus lanceolatus</i>	Sharp-tail sunfish	MRW				X			
<i>Mola mola</i>	Ocean sunfish	MOX	X	X	X		X	X	
<i>Mola spp</i>	Sunfish	MOP	X	X					
<i>Molva dypterygia</i>	Blue ling	BLI	X						
<i>Muraena helena</i>	Moray eel	MMH							X
<i>Naucrates ductor</i>	Pilotfish	NAU		X	X				X
<i>Nesiarchus nasutus</i>	Black gemfish	NEN	X						
<i>Ophichthidae</i>	Eel		X						
<i>Phtheichthys lineatus</i>	Slender suckerfish	HTL				X			
<i>Polyprion americanus</i>	Stone bass	WRF	X	X			X		X
<i>Pomatomus saltatrix</i>	Bluefish	BLU	X	X				X	X
<i>Pseudocaranx dentex</i>	Guelly jack	TRZ		X		X			X
<i>Pseudolithis spp</i>	Cassava fish			X					
<i>Ranzania laevis</i>	Slender mora (sunfish)	RZV	X	X					
<i>Rechycentron canadum</i>	Cobia	CBA	X						
<i>Regalecus glesne</i>	Oarfish	REL		X					
<i>Remora osteochir</i>	Marlin sucker			X					
<i>Remora remora</i>	Remora	REOI	X	X	X				
<i>Remora spp</i>		REM		X			X		
<i>Ruvettus pretiosus</i>	Oilfish	OIL	X	X	X				

<i>Schedophilus medusophagus</i>				X					
<i>Schedophilus ovalis</i>	Imperial blackfish	HDV		X					
<i>Sciaenops ocellatus</i>	Red drum	RDM	X						
<i>Scomber japonicus</i>	Chub mackerel	MAS		X					
<i>Scomber scobrus</i>	Atlantic mackerel	MAC		X	X				
<i>Seriola dumerilii</i>	Greater amberjack	AMB	X	X			X	X	X
<i>Seriola lalandii</i>	Yellowtail	YTC				X			
<i>Seriola rivoliana</i>	Longfin yellowtail	YTL				X			
<i>Seriola spp</i>	Amberjack	AMX	X						
<i>Sparnus pagrus</i>	Common sea bream		X						
<i>Sphyraena barracuda</i>	Barracuda	GBA	X		X				
<i>Spinax niger</i>	Velvet belly			X					
<i>Taractes asper</i>	Rough pomfret	TAS	X						
<i>Taractichthys steindachneri</i>	Sickle pomfret	TST	X						
<i>Taratichtys longipi</i>	Big scale pomphret	TAL	X						
<i>Tetraodontidae</i>	Puffer		X						
<i>Trachipterus arcticus</i>	Deal fish	TPA	X						
<i>Trachurus mediterraneus</i>	Mediterr. horse mackerel	HMM		X					
<i>Trichiuridae</i>	Snake mackerel		X						
<i>Uraspis secunda</i>		USE				X			

Sea Turtles									
Scientific names	Common name	Code	LL	GILL	PS	BB	HARP	TRAP	OTHER
<i>Caretta caretta</i>	Loggerhead turtle	TTL	X	X	X		X	X	X
<i>Chelonia mydas</i>	Green turtle	TUG	X	X	X				
<i>Dermochelys coriacea</i>	Leatherback turtle	DKK	X	X	X		X		
<i>Eretmochelys imbricata</i>	Hawksbill turtle	TTH		X	X				
<i>Lepidochelys kempii</i>	Kemps Ridley turtle	LKY			X				
Sea Birds									
Scientific names	Common name	Code	LL	GILL	PS	BB	HARP	TRAP	OTHER
<i>Thalassarche chlororhynchos</i>	Atlantic yellow-nosed albatross	Tristan da Cunha	X						
<i>Larus audouinni</i>	Audouinâ's gull	Mediterranean	X						
<i>Puffinus lherminieri</i>	Audubonâ's shearwater	Caribbean	X						
<i>Puffinus mauritanicus</i>	Balearic shearwater	Balearics	X						
<i>Pterodroma cahow</i>	Bermuda petrel	Bermuda	X						
<i>Thalassarche melanophrys</i>	Black-browed albatross	DIM	X						
<i>Pterodroma hasitata</i>	Black-capped petrel	Caribbean Namibia/South Africa	X						
<i>Morus capensis</i>	Cape gannet	Africa	X						
<i>Daption capense</i>	Cape petrel	Many colonies	X						
<i>Calonectris</i>	Cape Verde	Cape Verdes	X						

<i>edwardsii</i>	Shearwater								
<i>Calonectris diomedea</i>	Cory's shearwater	CDI		X					
<i>Larus marinus</i>	Great black-backed gull	North Atlantic							
<i>Puffinus gravis</i>	Great shearwater	PUG		X					
<i>Catharacta skua</i>	Great skua	North Atlantic		X					
<i>Pterodroma macroptera</i>	Great-winged petrel	Tristan da Cunha		X					
<i>Procellaria cinerea</i>	Grey petrel	Prince Edward		X					
<i>Thalassarche chrysostoma</i>	Grey-headed albatross	Prince Edward		X					
<i>Larus argentatus</i>	Herring gull	Widespread		X					
<i>Thalassarche carteri</i>	Indian yellow-nosed albatross	Indian Ocean		X					
<i>Larus atricilla</i>	Laughing gull	Caribbean		X					
<i>Fulmarus glacialis</i>	Northern fulmar	Many colonies		X					
<i>Morus bassanus</i>	Northern gannet	N Atlantic		X					
<i>Macronectes halli</i>	Northern giant petrel	South Georgia		X					
<i>Diomedea sanfordi</i>	Northern royal albatross	Chatham		X					
<i>Thalassarche cauta</i>	Shy albatross	Tasmania Tristan da Cunha		X					
<i>Phoebetria fusca</i>	Sooty albatross	Cunha		X					
<i>Puffinus griseus</i>	Sooty shearwater	Falklands							
<i>Fulmarus glacialoides</i>	Southern fulmar	FUG		X	X				
<i>Macronectes giganteus</i>	Southern giant petrel	Chile		X					
<i>Diomedea epomophora</i>	Southern royal albatross	Campbell		X					
<i>Procellaria conspicillata</i>	Specticled petrel			X					
<i>Diomedea dabbenena</i>	Tristan albatross	Tristan da Cunha		X					
<i>Diomedea exulans</i>	Wandering albatross	DIX		X					
<i>Procellaria aequinoctialis</i>	White-chinned petrel	PRO		X					
<i>Puffinus yelkouan</i>	Yelkouan shearwater	Mediterranean		X					
<i>Larus cachinnans</i>	Yellow-legged gull	Mediterranean		X					
<i>Diomedea chlororhynchos</i>	Yellow-nosed albatross	DCR		X					
Marine Mammals									
Scientific names	Common name	Code	LL	GILL	PS	BB	HARP	TRAP	OTHER
<i>Balaenoptera acutorostrata</i>	Minke whale	MIW		X	X			X	
<i>Balaenoptera borealis</i>	Sei whale	SIW			X				
<i>Balaenoptera edeni</i>	Bryde's whale	BRW			X				
<i>Balaenoptera physalus</i>	Fin whale	FIW	X	X	X		X		
<i>Delphinus delphis</i>	Common dolphin	DCO		X	X				
<i>Eubalaena glacialis</i>	Northern right whale	EUG		X					
<i>Globicephala</i>	Shortfin pilot whale	SHW			X				

<i>macrorhynchus</i>								
<i>Globicephala melas</i>	Pilot whale	PIW	X	X			X	X
<i>Grampus griseus</i>	Risso's dolphin	DRR	X	X			X	
<i>Kogia breviceps</i>	Pygmy sperm whale	PYW		X				
<i>Lagenorhynchus acutus</i>	Atlantic whiteside dolphin	DWH		X				
<i>Megaptera novaeangliae</i>	Humpback whale	HUW		X				
<i>Mesoplodon spp</i>	Beaked whale	MEP		X				
<i>Orcinus orca</i>	Killer whale	KIW			X			X
<i>Phocoena phocoena</i>	Harber porpoise	PHR		X				
<i>Physeter macrocephalus</i>	Sperm whale	SPW		X	X		X	
<i>Pseudorca crassidens</i>	False killer whale	FAW			X			
<i>Stenella attenuata</i>	Pantropical spotted dolphin	DPN			X			
<i>Stenella clymene</i>	Shortsnouted spinner dolphin	DCL			X			
<i>Stenella coeruleoalba</i>	Striped dolphin	DST	X	X	X		X	X
<i>Stenella frontalis</i>	Atlantic spotted dolphin	DSA		X				
<i>Stenella longirostris</i>	Spinner dolphin	DSI			X			
<i>Stenella plagiodon</i>	Atlantic spotted dolphin			X				
<i>Steno bredanensis</i>	Rough-toothed dolphin	RTD			X			
<i>Tursiops truncatus</i>	Bottlenose dolphin	DBO	X	X	X		X	
<i>Ziphius cavirostris</i>	Goosebeaked whale	BCW	X	X				X