

## Fish species recorded during deepwater trawl surveys on the continental shelf and the Porcupine Bank, 2006-2008

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The Marine Institute and the National University of Ireland, Galway conducted a deepwater survey each September from 2006-2008 from the RV *Celtic Explorer* using BT184 deepwater nets with type-D ground gear (ICES 2006). Fish, benthic and hydrographic data were collected. Two-hour fishing trawls (time on bottom) took place in three locations on the continental slope to the north and west of Ireland, and on the Porcupine Bank. The survey objectives were to collect biological data on the main deepwater fish species and invertebrates.

Fishing hauls were carried out at five depths, 500 m, 750 m, 1000 m, 1500 m, and 1800 m, in each of three areas (Fig. 1) chosen to repeat observations made during exploratory deepwater surveys by Ireland and Scotland in the 1990s (Connolly and Kelly 1994). The number of hauls at each depth varied from year to year, as a result of technical limitations in 2006 and variations in bottom type. The numbers of fish recorded should not be used to interpret changes in abundance between years. The number of successful hauls in each area is provided in Table 1.

In Table 2 we present a record of each of the fish species identified during these surveys, and the total number of these caught each year. Specimens were identified using UNESCO guides (Whitehead *et al.* 1984-1986), to species level where possible. Where individuals were damaged, they were identified only to genus or family. Nine specimens could not be identified. In total 166 taxa were recorded over the three years, with a maximum of 129 in 2008.

Individual survey reports are available online at:

<http://www.marine.ie/home/services/surveys/fisheries/Deepwater+Survey.htm>.

(Retrieved 03 March 2010)

### REFERENCES

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ICES (2006) Manual for the International Bottom Trawl Surveys. Revision VII. In *Report of the International Bottom Trawl Survey Working Group*, 27-31st March, 2006. Lysekil, Sweden.

WHITEHEAD, P. L. P., BAUCHOT, M.L, HUREAU, J.-C., NIELSEN J. and TORTONESE, E. (eds) (1984–1986) *Fishes of the North-eastern Atlantic and the Mediterranean*. Vols. 1-3. Paris: Unesco.

### Tables & Figures

**Table 1.** Number of two-hour tows completed in each fishing area per year.

		Area 2	Area 4	Area 5
2006	500 m	1	2	1
	750 m	1	2	1
	1000 m	2	2	2
	1500 m	2	1	2
	1800 m			
2007	500 m	1		
	750 m			1
	1000 m	1	2	2
	1500 m	1	2	2
	1800 m	1	1	2
2008	500 m	2	2	
	750 m			1
	1000 m	2	2	2
	1500 m	2	1	2
	1800 m	2	1	2

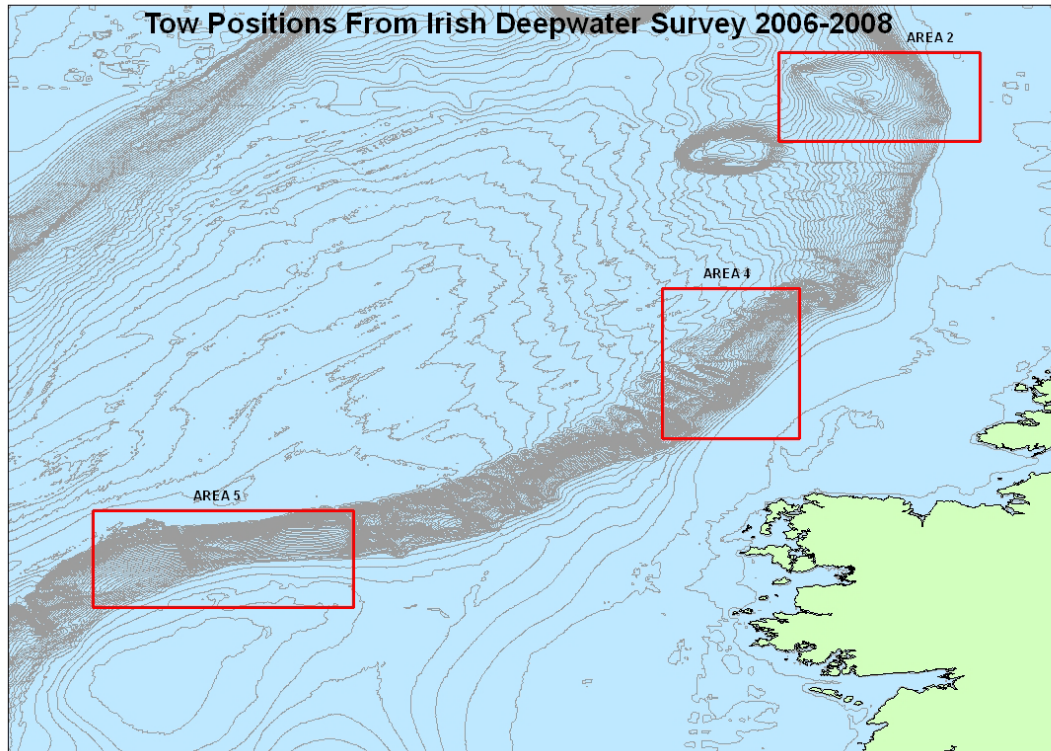
**Table 2.** Fish species recorded during deepwater trawl surveys on the continental shelf and the Porcupine Bank, 2006-2008.

Species	Common Name	2006	2007	2008
<i>Aldrovandia phalacra</i>	Hawaiian Halosaur		1	
<i>Alepocephalus agassizii</i>	Agassiz's Smoothhead	2	108	276
<i>Alepocephalus bairdii</i>	Baird's Smoothhead	2543	4365	3757
<i>Alepocephalus productus</i>	Smalleye Smoothhead	21		14
<i>Alepocephalus rostratus</i>	Risso's Smoothhead	25		
<i>Allocyttus verrucosus</i>	Coster Dory		3	
<i>Amblyraja jenseni</i>	Jensen's Ray		4	5
<i>Anoplogaster cornuta</i>	Fangtooth or Ogresfish	2	1	3
<i>Antimora rostrata</i>	Blue Antimora	45	122	153
<i>Aphanopus carbo</i>	Black Scabbard Fish	828	863	743
<i>Apristurus aphyodes</i>	White Catshark	144	153	107
<i>Apristurus laurussoni</i>	Iceland Catshark	15	9	53
<i>Apristurus manis</i>	Ghost Catshark	7	29	26
<i>Apristurus melanoasper</i>	Black Roughscale Catshark	1	18	17
<i>Apristurus microps</i>	Smalleyed Catshark			43
<i>Argentina silus</i>	Greater Silver Smelt	5582	73	4217
<i>Argyropelecus hemigymnus</i>		1		
<i>Argyropelecus olfersi</i>	Hatchetfish	9	3	5
<i>Bajacalifornia megalops</i>	Bigeye Smoothhead			35
<i>Bathylagidae</i>		111	1	
<i>Bathylagus melanobranchus</i>		2	105	
<i>Bathypterois dubius</i>	Spiderfish or Tripodfish	102	85	76
<i>Bathyraja pallida</i>	Pale Deepsea Ray		1	4
<i>Bathyraja richardsoni</i>	Richardson's Ray		3	3
<i>Bathysaurus ferrox</i>	Deepsea Lizardfish		6	20
<i>Benthabella infans</i>	Zugmayer's Pearleye		1	
<i>Beryx decadactylus</i>	Alfonsino	3		1
<i>Beryx splendens</i>	Lowe's Alfonsino	2		
<i>Borostomias antarcticus</i>	Straightline Dragonfish		22	4
<i>Borostomias spp.</i>	Dragonfishes	11		
<i>Brama brama</i>	Ray's Bream or Pomfret			37
<i>Neoraja caerulea</i>	Blue Ray	9	1	2

<u>Brosme brosme</u>	Tusk	19	8	28
<u>Coelorinchus coelorhincus</u>	Hollow-Nosed Rat-tail	3201	1174	3942
<u>Callionymus lyra</u>	Common Dragonet		1	
<u>Capros aper</u>	Boarfish	5		
<u>Cataetyx laticeps</u>		77	83	81
<u>Centrolophus medusophagus</u>	Cornish Blackfish			2
<u>Centrolophus niger</u>	Blackfish	19		14
<u>Centrophorus squamosus</u>	Leafscale Gulper Shark	46	29	7
<u>Centroscyllium fabricii</u>	Black Dogfish	86	36	42
<u>Centroscymnus coelolepis</u>	Portuguese Dogfish	28	36	27
<u>Centroscymnus crepidater</u>	Longnose Velvet Dogfish	218	259	286
<u>Chauliodus sloani</u>	Sloane's Viperfish	7	1	15
<u>Chiasmodon niger</u>	Black Swallower	1		
<u>Chimaera monstrosa</u>	Rabbit Fish (Rat-tail)	2789	1143	1804
<u>Coelorinchus labiatus</u>	Spearsnouted Grenadier	1034	1335	1277
<u>Conger conger</u>	European Conger Eel	19	11	66
<u>Conocara macropterus</u>	Longfin Smoothhead	8	4	3
<u>Conocara murrayi</u>	Murray's Smoothhead		23	5
<u>Conocara spp</u>	Smoothheads		1	
<u>Coryphaenoides mediterraneus</u>	Mediterranean Grenadier	183	377	458
<u>Coryphaenoides guentheri</u>	Günther's Grenadier	650	1164	1515
<u>Coryphaenoides rupestris</u>	Roundnose Grenadier	17568	16237	14833
<u>Cottunculus thomsonii</u>	Pallid Sculpin			12
<u>Cryptopsaras couesii</u>	Triplewart Seadevil			1
<u>Dalatias licha</u>	Kitefin Shark	1	2	5
<u>Deania calcea</u>	Birdbeak Dogfish	528	424	303
<u>Dipturus batis</u>	Common Skate	5	1	6
<u>Dipturus nidarosiensis</u>	Longnosed Skate	4	1	
<u>Diretmus argenteus</u>	Little Dory	2	3	
<u>Echiostoma barbatum</u>	Threadfin Dragonfish		1	
<u>Entelurus aequoreus</u>	Snake Pipefish	77	34	
<u>Epigonus telescopus</u>	Bullseye or Cardinal Fish	290	26	128
<u>Etmopterus princeps</u>	Great Lanternshark	185	141	167
<u>Etmopterus spinax</u>	Velvetbelly Shark	110	10	205
<u>Eurypharynx pelecanoides</u>	Pelican Eel		2	
<u>Gadiculus argenteus</u>	Silvery Pout	189	151	267
<u>Gadus morhua</u>	Atlantic Cod			5
<u>Gaidropsarus argentatus</u>	Arctic Rockling	3		
<u>Gaidropsarus vulgaris</u>	Three-bearded Rockling	1		
<u>Galeus melastomus</u>	Blackmouthed Dogfish	883	233	540
<u>Galeus murinus</u>	Mouse Catshark	19	38	15
<u>Glyptocephalus cynoglossus</u>	Witch	255	67	31
<u>Gonostoma bathyphilum</u>	Bristlemouth			9
<u>Halargyreus johnsonii</u>	Slender Codling	950	499	823
<u>Halosaurus macrochir</u>	Abyssal Halosaur	40	73	92
<u>Harriotta raleighana</u>	Narrownose Chimera	251	167	279
<u>Helicolenus dactylopterus</u>	Blue-mouth Redfish	7142	314	1063
<u>Hexanchus griseus</u>	Six-gilled Shark	7	5	8
<u>Hippoglossus hippoglossus</u>	Halibut			1
<u>Holtbyrnia anomala</u>	Bighead Searsid	6		161
<u>Hoplostethus atlanticus</u>	Orange Roughy	434	222	170
<u>Hoplostethus mediterraneus</u>	Pink Roughy	1		1
<u>Howella sherborni</u>	Sherborn's Pelagic Bass		12	2
<u>Hydrolagus affinis</u>	Small-eyed Rabbitfish	37	58	123

<u><i>Hydrolagus mirabilis</i></u>	Large-eyed Rabbitfish	315	236	242
<u><i>Hydrolagus pallidus</i></u>	Pale Rabbitfish	5	20	3
<u><i>Ilyophis blachei</i></u>			2	1
<u><i>Kali macrura</i></u>			1	
<u><i>Lampanyctus spp</i></u>	Lantern Fishes	4		
<u><i>Lepidion eques</i></u>		4319	1779	1734
<u><i>Lepidion schmidti</i></u>	Schmidt's Cod	1		1
<u><i>Lepidorhombus boscii</i></u>	Four spot Megrim	33		15
<u><i>Lepidorhombus whiffiagonis</i></u>	Megrim	16	3	9
<u><i>Leucoraja circularis</i></u>	Sandy Ray	4		2
<u><i>Leucoraja naevus</i></u>	Cuckoo Ray	1		
<u><i>Lophius piscatorius</i></u>	Anglerfish or Monkfish	37	16	49
<u><i>Lycodes crassiceps</i></u>		10	12	28
<u><i>Lycodes spp.</i></u>	Eelpouts	1	5	
<u><i>Lycodes terraenovae</i></u>	Eelpout	18		
<u><i>Malacocephalus laevis</i></u>	Soft-headed Rattail	18		6
<u><i>Malacoraja kreffti</i></u>	Kreffft's Ray	1		
<u><i>Malacosteus niger</i></u>	Stoplight Loosejaw	12	6	20
<u><i>Manducus maderensis</i></u>				3
<u><i>Maulisia microlepis</i></u>	Smallscale Searsid			3
<u><i>Melamphaes spp.</i></u>	Bigsoles	1	6	1
<u><i>Melanonus zugmayeri</i></u>	Arrowtail	6		4
<u><i>Melanostigma atlanticum</i></u>	Atlantic Soft Pout	6		2
<u><i>Merluccius merluccius</i></u>	European Hake	187	212	652
<u><i>Micromesistius poutassou</i></u>	Blue Whiting	2329	91	668
<u><i>Molva dypterygia</i></u>	Blue Ling	81	58	104
<u><i>Molva molva</i></u>	Common Ling	30	25	57
<u><i>Mora moro</i></u>	Mora	123	142	346
<u><i>Myctophidae</i></u>	Lantern Fishes	87	100	312
<u><i>Narctes stomias</i></u>	Blackhead Salmon			1
<u><i>Nemichthys scolopaceus</i></u>	Snipe Eel	2		10
<u><i>Neocyttus helgae</i></u>	False Boarfish		1	
<u><i>Nesiarchus nasutus</i></u>	Johnson's Scabbard fish		2	1
<u><i>Nessorhamphus ingolfianus</i></u>	Duckbill Oceanic Eel			2
<u><i>Nezumia aequalis</i></u>	Smooth Grenadier	6718	3560	3527
<u><i>Nezumia sclerorhynchus</i></u>	Roughtip Grenadier	1		
<u><i>Normichthys operosus</i></u>	Multipore Searsid	14		32
<u><i>Notacanthus bonaparti</i></u>	Bonapart's Spiny-eel	152	116	186
<u><i>Notacanthus chemnitzii</i></u>	Chemnitz's Spiny-eel	12	24	22
<u><i>Notoscopelus kroeyeri</i></u>	Kroeyer's Lanternfish			1
<u><i>Oxynotus paradoxus</i></u>	Sharpback Shark			1
<u><i>Paraliparis spp.</i></u>	Snailfish spp.	19	30	48
<u><i>Phycis blennoides</i></u>	Greater Forkbeard	720	222	368
<u><i>Pleuronectes platessa</i></u>	European Plaice	1		
<u><i>Pollachius virens</i></u>	Saithe	2		
<u><i>Polyacanthonotus rissoanus</i></u>	Risso's Spiny-eel		38	43
<u><i>Polymetme corythaeola</i></u>		1		
<u><i>Rajella bathyphilia</i></u>	Abyssal Skate	8		2
<u><i>Raja montagui</i></u>	Spotted Ray			1
<u><i>Rajella fyllae</i></u>	Round Skate	17	7	8
<u><i>Rajella kukujevi</i></u>	Kukujev's Ray	1	1	
<u><i>Rajella bigelowi</i></u>	Bigelow's Ray	1		1
<u><i>Rhinochimaera atlantica</i></u>	Spearnose Chimera	52	29	21
<u><i>Rouleina attrita</i></u>	Softskin Smoothhead	2	939	1241

<u>Rouleina spp.</u>	Smoothhead spp.	1000		
<u>Schedophilus medusophaqus</u>	Cornish Blackfish		22	4
<u>Scomber scombrus</u>	European Mackerel	3		
<u>Scopelogadus beanii</u>	Bean's Bigscale	1	5	54
<u>Scopelosaurus spp</u>		1		3
<u>Scyliorhinus canicula</u>	Lesser-Spotted Dogfish	9	11	5
<u>Scymnodon ringens</u>	Knifetooth Dogfish	7	4	4
<u>Searsia koefoedi</u>	Koefoed's Searsid		67	1
<u>Serrivomer beani</u>	Bean's Sawtoothed Eel	25	16	32
<u>Simenchelys parasiticus</u>	Slime Eel or Pugnose Eel			1
<u>Somniosus rostratus</u>	Little Sleeper Shark			1
<u>Spectrunculus grandis</u>	Pudgy Cuskeel		51	65
<u>Squalus acanthias</u>	Spurdog	2	1	1
<u>Stomias boa ferox</u>	Boa Dragonfish	14	21	16
<u>Symbolophorus veranyi</u>	Largescale Lanternfish	5		
<u>Synaphobranchus kaupii</u>	Kaup's Arrowtooth Eel	594	1135	956
<u>Talismania antillarum</u>	Antillean smoothhead			2
<u>Trachipterus arcticus</u>	Dealfish	3	2	7
<u>Trachurus trachurus</u>	Horse-mackerel or Scad	815	2	3
<u>Trachyrincus murrayi</u>	Murray's Rattail	3072	1576	1031
<u>Trachyrincus scabrus</u>	Roughnosed Rattail		1	
<u>Trachyscorpia cristulata</u>	Scorpion Fish	3		1
<u>Trigonolampa miriceps</u>	Threelight Dragonfish	1		
<u>Trisopterus minutus</u>	Poor Cod	1		7
<u>Venefica proboscidea</u>	Whipsnout Sorcerer		3	4
<u>Xenodermichthys copei</u>	Bluntsnout Smoothhead	2223	1186	2686
		69990	42169	53085



**Figure 1.** Map of locations of trawls during Irish deepwater surveys, 2006-2008