Supplementary material

Table S1. UK fisheries nominal catches (> 100 t yr⁻¹) in 2018 for divisions e and f within the FAO Major Fishing Area 27 and subarea 7. Divisions e and f correspond to the southern and northern coasts of the SW Peninsula. Catch data and methods were extracted from publicly available ICES and MMO data respectively.

Division	3-a	Common name	Species or family	Catch (t)	Catch method	
27.7.e	PIL	European pilchard	Sardina pilchardus	5717.53	Seine, demersal trawl,	
21.1.6	1 11	Luiopean pilonaru	Gardina pilonardus	37 17.33	drift and fixed nets	
	SCE	Great Atlantic	Pecten maximus	5039.02	Dredge	
JOL		scallop	r coton maximas	0000.02	Dreage	
	CRE	Edible crab	Cancer pagurus	3766.14	Pots and traps	
	CTL	Cuttlefish and	Sepiidae and	3694.82	Beam trawl	
	0.2	bobtail squids	Sepiolidae	000 1102	Boam tram	
	SPR	European sprat	Sprattus sprattus	1803.55	Demersal trawl/seine	
	WHE	Whelk	Buccinum	1462.77	Pots and traps	
		-	undatum	-		
	PLE	European plaice	Pleuronectes	1376.65	Beam trawl	
		' '	platessa			
	ANF	Anglerfishes	, Lophiidae	1150.94	Beam trawl	
	SYC	Small-spotted	Scyliorhinus	878.45	Beam trawl	
		catshark	canicula			
	GUX	Gurnards and	Triglidae	798.82	Beam trawl	
		searobins	•			
	SOL	Common sole	Solea solea	791.94	Beam trawl	
	POL	Pollack	Pollachius	659.99	Drift and fixed nets	
			pollachius			
	WHG	Whiting	Merlangius	537.85	Demersal trawl/seine	
			merlangus			
	BIB	Pouting	Trisopterus luscus	530.12	Beam trawl	
	LEM	Lemon sole	Microstomus kitt	484.91	Demersal trawl/seine	
	ANE	European anchovy	Engraulis	446.76	Demersal trawl/seine,	
			encrasicolus		drift and fixed nets	
	MAC	Atlantic mackerel	Scomber	400.24	Hooked gear	
			scombrus			
	HKE	European hake	Merluccius	390.42	Demersal trawl/seine,	
			merluccius		drift and fixed nets	
	HAD	Haddock	Melanogrammus	301.05	Demersal trawl/seine	
	000	0 "	aeglefinus	200.0	D	
	QSC	Queen scallop	Aequipecten 	282.6	Beam trawl	
	TUD	Touris and	opercularis	050.14	De ava tuavid	
	TUR	Turbot	Psetta maxima	252.14	Beam trawl	
	RJH	Blonde ray	Raja brachyura	236.52	Demersal trawl/seine,	
0.	SQC	Common oquido	Lalias ann	229.91	drift and fixed nets Demersal trawl/seine	
	BLL	Common squids Brill	Loligo spp.	229.91	Beam trawl	
	DLL	DIIII	Scophthalmus rhombus	221.30	beam trawi	
	LEZ	Megrims	Lepidorhombus	220.32	Beam trawl	
	LLZ	Meginis	spp.	220.02	Deam trawi	
	RJC	Thornback ray	Raja clavata	206.55	Demersal trawl/seine,	
	1100	THOMBACK Tay	riaja Ciavata	200.55	drift and fixed nets	
	LBE	European lobster	Homarus	190.39	Pots and traps	
	LUL	Laropour lobotor	gammarus	100.00	i oto una trapo	
	OCT	Octopuses	Octopodidae	178.29	Beam trawl	
	BSS	European seabass	Dicentrarchus	173.46	Demersal trawl/seine,	
			labrax		hooked gear	
					· · · · · · · · · · · · · · · · · · ·	

SCR JOD JAX	Spinous spider crab John Dory Jack and horse mackerels	Maja squinado Zeus faber Trachurus spp.	164.5 161.65 161.19	Pots and traps Demersal trawl/seine Demersal trawl/seine
SMD	Smooth-hound	Mustelus mustelus	144.46	Demersal trawl/seine, drift and fixed nets
PIL	European pilchard	Sardina pilchardus	2413.289	Drift and fixed nets
CRE	Edible crab	Cancer pagurus	1749.635	Pots and traps
WHE	Whelk	Buccinum undatum	1313.553	Pots and traps
MAC	Atlantic mackerel	Scomber scombrus	364.767	Hooked gear
RJH	Blonde ray	Raja brachyura	294.672	Demersal trawl/seine
ANF	European pilchard	Lophiidae	282.676	Beam trawl
HKE	European hake	Merluccius merluccius	233.017	Drift and fixed nets
POL	Pollack	Pollachius pollachius	228.8	Drift and fixed nets
JAX	Jack and horse mackerels	Trachurus spp.	224.577	Drift and fixed nets, hooked gear
LBE	European lobster	Homarus gammarus	193.425	Pots and traps
SCR	Spinous spider crab	Maja squinado	192.596	Pots and traps
LEZ	Megrims	Lepidorhombus spp.	171.028	Beam trawl
SYC	Small-spotted catshark	Scyliorhinus canicula	168.7	Drift and fixed nets
SOL	Common sole	Solea solea	155.152	Beam trawl
RJC	Thornback ray	Raja clavata	146.76	Demersal trawl/seine
SCE	Great Atlantic scallop	Pecten maximus	105.711	Dredge
	JOD JAX SMD PIL CRE WHE MAC RJH ANF HKE POL JAX LBE SCR LEZ SYC SOL RJC	JOD John Dory JAX Jack and horse mackerels SMD Smooth-hound PIL European pilchard CRE Edible crab WHE Whelk MAC Atlantic mackerel RJH Blonde ray ANF European pilchard HKE European hake POL Pollack JAX Jack and horse mackerels LBE European lobster SCR Spinous spider crab LEZ Megrims SYC Small-spotted catshark SOL Common sole RJC Thornback ray SCE Great Atlantic	JOD John Dory Jack and horse mackerels SMD Smooth-hound PIL European pilchard CRE Edible crab WHE Whelk MAC Atlantic mackerel RJH Blonde ray ANF European pilchard HKE European hake POL Pollack POL Pollachius pollachius pollachius pollachius pollachius pollachius pollachius pollachius pollachius SPD. SPC Spinous spider crab Maja squinado Lepidorhombus spp. SYC Small-spotted catshark Canicula SOL Common sole RJC Thornback ray SCE Great Atlantic Pecten maximus	JOD John Dory Zeus faber 161.65 JAX Jack and horse mackerels Trachurus spp. 161.19 SMD Smooth-hound Mustelus mustelus 144.46 PIL European pilchard Sardina pilchardus 2413.289 CRE Edible crab Cancer pagurus 1749.635 WHE Whelk Buccinum 1313.553 WHE Whelk Buccinum 1313.553 MAC Atlantic mackerel Scomber scombrus 364.767 RJH Blonde ray Raja brachyura 294.672 ANF European pilchard Lophiidae 282.676 HKE European hake Merluccius 233.017 POL Pollack Pollachius 228.8 pollachius 228.8 pollachius JAX Jack and horse mackerels Trachurus spp. 224.577 LBE European lobster Homarus pollachius 193.425 SCR Spinous spider crab Maja squinado 192.596 LEZ

 $^{3-\}alpha$ = unique taxonomic FAO code for each species.

Table S2. Gamma generalised linear model results obtained from type II or III sums of squares tests. Where the interaction term is not present, it was not significant and removed during model fitting. Where the interaction is significant, results are given for each combination of ALDFG type (twisted, braided and filament) and coast (north and south). See code in the open-access repository at github.com/lukaseamus/marine-microplastic for details of the analysis procedure.

Response variable	n	Explanatory variable	df	X ²	р	
Abundance (m ⁻¹)	18	Type	2	5.99	0.05	
		Coast	1	19.41	< 0.001	***
Filaments (rope ⁻¹)	115	Type (North)	1	8.63	0.003	**
		Type (South)	1	0.007	0.93	
		Coast (Twisted)	1	19.16	< 0.001	***
		Coast (Braided)	1	0.4	0.53	
		Type × Coast	1	6.33	0.01	*
Length (cm)	374	Type (North)	2	18.69	< 0.001	***
		Type (South)	2	46.1	< 0.001	***
		Coast (Twisted)	1	13.47	< 0.001	***
		Coast (Braided)	1	1.53	0.22	
		Coast (Filament)	1	1.47	0.22	
		Type × Coast	2	12.33	0.002	**
Volume (cm³)	374	Type (North)	2	134.16	< 0.001	***
		Type (South)	2	100.69	< 0.001	***
		Coast (Twisted)	1	28.31	< 0.001	***
		Coast (Braided)	1	1.11	0.29	
		Coast (Filament)	1	1.05	0.31	
		Type × Coast	2	19.72	< 0.001	***

Table S3. Estimates of ALDFG plastic volume and potential number of released microplastic pieces per metre of beach in the UK's region of highest ALDFG density.

	Plastic volume (cm³ m ⁻¹)				Potential microplastic pieces (m ⁻¹)			
ALDFG	X	CI	Ã	IQR	X	CI	χ̃	IQR
Twisted	4.07	0.08-8.05	0.23	0.11–0.71	664	13.6–1314	111	51–336
Braided	2.24	0.02-4.47	0.53	0.18-1.19	538	3.6-1071	167	58.1–374
Filament	0.07	0.002-0.15	0.02	0.01–0.05	75.3	2.1–148	22.6	17.2–62.2

 $[\]bar{x}$ = mean, CI = 95% confidence interval, \tilde{x} = median, IQR = interquartile range.