



STRANDED CETACEANS PROVIDE AN EVIDENCE OF ONGOING INTERACTIONS WITH FISHERIES IN GALICIAN WATERS



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INTRODUCTION

Bycatch is the most reported anthropogenic threat for cetaceans worldwide. Although some observer programmes could suggest a sustainable situation regarding interaction with cetacean species in European waters, some estimates based on strandings highlight a very concerning situation, at least for common dolphin (*Delphinus delphis*) and harbour porpoise (*Phocoena phocoena*). Galicia is located at the Northwest of Spain, and holds one of the major fishery fleets of Europe, with up to 4,000 boats. Of them, 93% practice minor or artisanal fishery, which officially reports low interaction rates, and almost 500 boats use extractive fishing nets, such as trawls and longlines. With approximately 1,500 km of coast, Galician is the scenario of more than 220 cetacean strandings yearly. Stranded cetaceans represents an opportunity to study the prevalence of fishery interactions.

RESULTS

2,367 studied cetaceans [1990-2022]

981 cases compatible with bycatch

41,4% of the studied stranded cetaceans presented evidences of fishery interactions

Chi2 test: Significant increase in common dolphin bycatch mortality of over time ($p=0.00$), no significant change in porpoise bycatch mortality ($p=0.19$) (however, it looks higher since 2010!) and a weakly significant increase in bottlenose dolphin bycatch mortality ($p=0.02$).

Species	Studied cetaceans	Bycaught compatible lesions	% Prevalence
<i>Balaenoptera acutorostrata</i>	28	14	50
<i>Delphinus delphis</i>	1540	780	50,6
<i>Globicephala melas</i>	96	19	19,8
<i>Grampus griseus</i>	41	16	39
<i>Kogia breviceps</i>	2	1	50
<i>Lagenorhynchus acutus</i>	1	1	100
<i>Megaptera novaeangliae</i>	3	2	66,7
<i>Mesoplodon densirostris</i>	1	1	100
<i>Mesoplodon mirus</i>	2	1	50
<i>Phocoena phocoena</i>	144	55	38,2
<i>Stenella coeruleoalba</i>	229	16	7
<i>Tursiops truncatus</i>	201	54	26,9
Undetermined individuals	79	21	26,6
Total	2367	981	41,4

<i>Delphinus delphis</i>						
Years	Strandings	External examination	Bycatch evidences	Without evidences	%	Total Annual
1990-1999	674	298	118	180	39,6%	267 27
2000-2009	1275	499	258	241	51,7%	659 66
2010-2018	1010	546	282	264	51,6%	522 58
2019-2022	633	197	122	75	61,9%	392 98
<i>Phocoena phocoena</i>						
Years	Strandings	External examination	Bycatch evidences	Without evidences	%	Total Annual
1990-1999	104	45	14	31	31,1%	32 3
2000-2009	95	27	8	19	29,6%	28 3
2010-2018	98	41	21	20	51,2%	50 6
2019-2022	53	31	12	19	38,7%	21 5
<i>Tursiops truncatus</i>						
Years	Strandings	External examination	Bycatch evidences	Without evidences	%	Total Annual
1990-1999	156	51	12	39	23,5%	37 4
2000-2009	135	55	8	47	14,5%	20 2
2010-2018	166	64	21	43	32,8%	54 6
2019-2022	92	31	13	18	41,9%	39 10



Bycaught compatible external lesions:
 a. *G. griseus*, peduncle amputation.
 b. *D. delphis*, rope impressions in the thorax and net cuts at the pectoral fin.
 c. *P. Phocoena*, net skin cuts in the rostrum.

CONCLUSIONS

Our results do not coincide with the small number of cases reported by the artisanal fleet. Long-term series of strandings data indicate the persistence of fatal encounters with fisheries in Galician waters. Instead to decrease, higher percentages of bycatch rates have been detected in common dolphin, harbour porpoise and bottlenose dolphin.

REFERENCES

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