

EFFECTS OF THE “PRESTIGE” OIL SPILL IN AQUATIC MAMMALS AND SEA TURTLES OF THE GALICIAN COAST (NW SPAIN)

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1. INTRODUCTION

Sea turtles, cetaceans and other aquatic mammals (seals and otters) are species that are usual or sporadic inhabitants of the Galician coastal platform and their way of life depends on the quality of the water surface and the coastal areas. So, from the beginning of the “Prestige” oil spill it was thought that they could be directly affected by it. And even more with the knowledge that the presence of some of them, as seals and turtles, has a strong stationary dependence in Galicia (López *et al.* 2001), and that they could suffer a long-term effect, as was proved in other big oil spills (Geraci and St. Aubins, 1990). The marine vertebrate populations in Galician waters include records of 20 cetacean species, including inshore populations of bottlenose dolphin (*Tursiops truncatus*) and harbour porpoise (*Phocoena phocoena*) (López *et al.* 2002; López, 2003), european otters (*Lutra lutra*) 4 sea turtles species and 4 seals species, being the most frequent the loggerhead sea turtle (*Caretta caretta*) and the grey seal (*Halichoerus grypus*) respectively (López *et al.* 2001). Since 1990, the NGO CEMMA records strandings of marine mammals and sea turtles in Galicia through the design and work of the stranding network. At the same time carries out necropsies of dead animals and provides samples for all kind of post-mortem studies. Each year a monitoring of the wild populations is done through the tasks of the coastal prospection and ship surveys of the sightings network. The rescue efforts with the oiled animals were conducted by CEMMA with the Galician autonomous government collaboration (authorization and financial supply).



Halichoerus grypus, Muxía, 01/01/2003



Oiled dolphin



Caretta caretta



Stenella coeruleoalba, Cee, 14/12/2002

The cetacean that were affected were 6 animals: 2 common dolphins (*Delphinus delphis*), 2 striped dolphins (*Stenella coeruleoalba*) and 2 minke whales (*Balaenoptera acutorostrata*). And there were some animals that were probably affected because although they didn’t have signs of direct death, they coincide with the black tides in time and place: 3 bottlenose dolphins, 1 harbour porpoise, 1 common dolphin, 2 striped dolphins and 2 long-finned pilot whales (*Globicephala melas*). In Galicia it was estimated that only the 14% of dead animals are found stranded at the coast (López, 2003). Since November 2002, an increased number of bottlenose dolphins individuals per herd were observed in the Rias Baixas (south of Galicia) from the usual number of 30 (Carril *et al.* 2003) to 65 individuals per herd observed since November. This area was less affected than northern part of Galicia by the oil spill.

	Recorded animals	Afected	Probably affected	Alives	Rescued	% Rescued animals
Cetaceans	124	6	9	0	0	0
MarineTurtles	90	82	8	36	25	69,4
Seals	4	3	1	3	1	33,3
Otters*	14	3	11	0	0	0

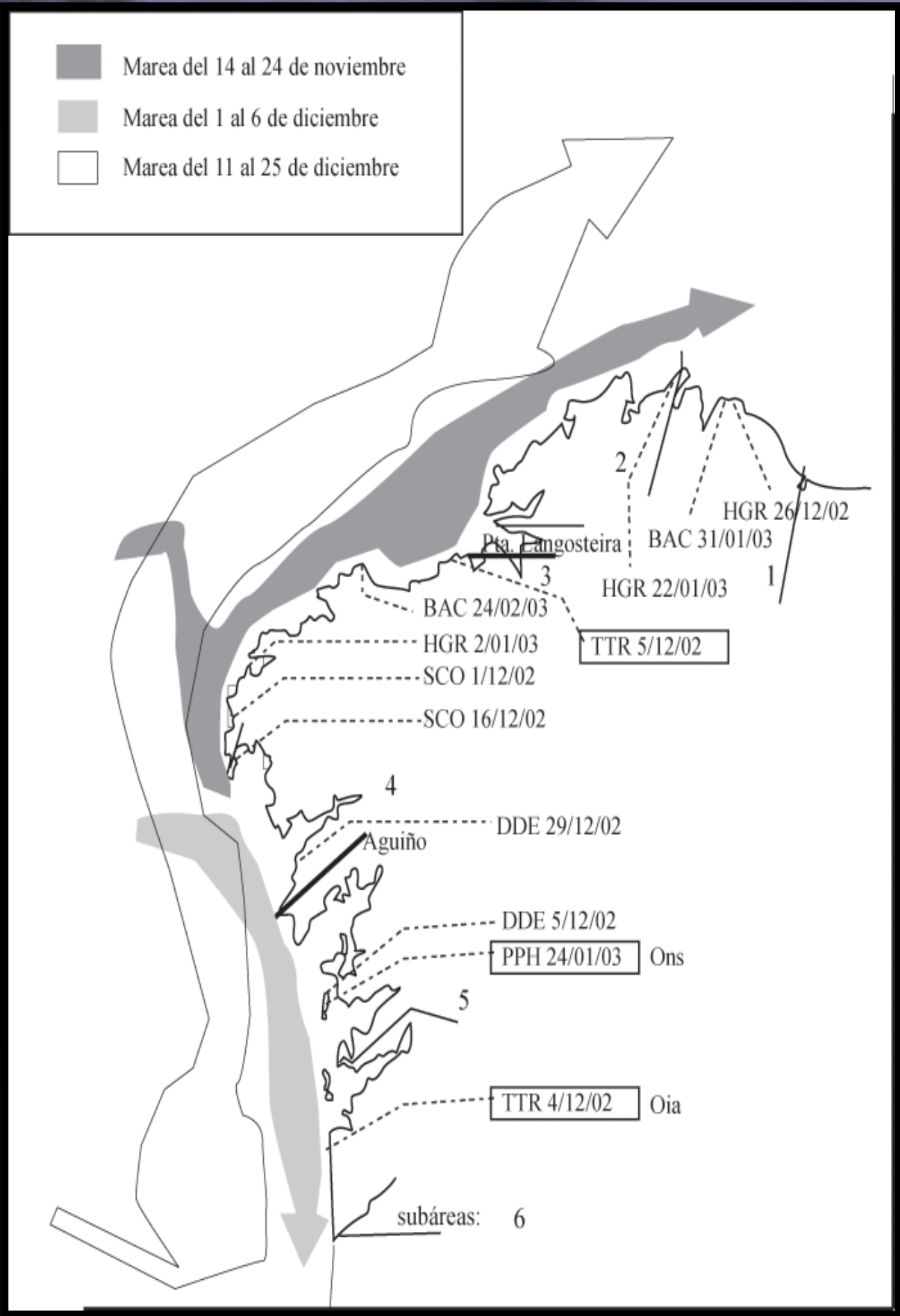
* All recorded are stranding except 11 otters sighting with oil in the hear.



Balaenoptera acutorostrata, Malpica, 24/02/03. Oil in the baleen plates.



Delphinus delphis, Porto do Son, 29/12/03. Stomacal affection for oil.



DISCUSSION

The majority of the Galician coast, as well as a great part of the northern Spanish coastline, was affected by the *Prestige* oil spill. The effects on the marine fauna and flora have to be studied in short, medium and long-terms. The high number of individuals stranded oiled during the first three months after the sinking of the tanker, represents an approach to the magnitude that can reach the short-term effects in the coastal and off-shore populations. On the other hand, indirect effects of the oil spill have to be taken into account. Changes in feeding habits or habitat uses due to presence of the oil as well as the presence of thousands of floating barriers to prevent the entrance of the oil in the Rias represent a potential factors of risk, specially for the large coastal bottlenose dolphin herds. Finally, long-term studies of bio-accumulation of toxic compounds have to be planned, designing specific necropsy and sampling procedures and boosting the Marine Mammals and Sea Turtles Tissue Bank managed by the Strandings Working Group of the Spanish Cetacean Society (SEC). With the correction factor of dead vs. stranded, and considering confirmed and probably affected individuals, it’s estimated that the total number of cetaceans, seals, otters and sea turtles that were affected by the Prestige oil spill is 671 – 879 individuals.

RESULTS

From the sinking of the “Prestige” on 13/11/2002 to 31/05/2003, a total of 124 cetaceans of 11 species, 90 sea turtles of 2 species, 4 grey seals and 14 otters (3 stranded and 11 seen with oiled hair) were recorded stranded along the Galician coast. The percentage of stranded animals oiled was 100% for seals, 74% for sea turtles and 35% for cetaceans. The degrees of affectation observed in all species were from small spots adhered to skin to death due to severe oiling, including the presence of oil into the digestive and respiratory tracts. Deaths directly caused by the oil of the examined animals were 100% of the 3 stranding otters, 60% of the 90 sea turtles (all loggerhead turtles), 66% of the 4 seals and 3% of the 124 cetaceans.

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