Prestige Oil Spill in Spain:
A Summary of the PRBO Response in 2002

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PRBO Contribution # 1093
BACKGROUND AND INTRODUCTION

The Incident

On November 13, 2002, the oil tanker Prestige began leaking oil off the Galician coast of northwestern Spain. The single hull, Bahamas-flagged tanker, which was carrying approximately 77,000 tons of heavy fuel oil (twice the amount carried by the Exxon Valdez), appeared to have a crack in it.

The captain requested safe harbor from nearby Spanish ports, but the Department of Transportation Minister would not grant this. Portuguese officials similarly refused to allow the disabled tanker into its ports, sending out two warships to ensure that its directive was heeded. The vessel was instead dragged far from the coast out into rough open waters. This portion of the Atlantic Ocean is known for its turbulent seas, with the area along the Galician coast dubbed the “Coast of Death.” This decision to tow the ship far offshore is considered the primary cause of a terrible accident turning into an environmental catastrophe with far-reaching consequences. It entailed risking a significantly larger oil spill instead of allowing the ship into port where the spill would be local and containable, where the cleanup and transportation of oil would be feasible, and where the ecological effects would have been minimal.

On November 19th, 120 miles from the coast and after several days of being battered by the Atlantic, the ship broke into two pieces and sank. The largest oil slick created almost immediately by the breakup of the tanker was 35 x 65 kilometers in area. During the initial days and weeks after the vessel sank, hundreds of kilometers of Galician coastline were oiled.

PRBO’s Oil Spill Response Team

PRBO Conservation Science (PRBO), founded in 1965 as the Point Reyes Bird Observatory, has been involved in oil spill response throughout most of its existence. From the early 1970s onward, involvement included assessing impacts of spills on
marine wildlife populations, conducting daily oiled wildlife surveys on Southeast Farallon Island, and providing court depositions on data collected during oil spills.

In 1994, PRBO created protocols for processing oiled wildlife for the California Department of Fish and Game, and we have maintained an ongoing cooperative relationship with their Office of Spill Prevention and Response ever since. We are responsible for training and managing a team of professionals (called “The Wildlife Processing Unit”) prepared to respond upon a moment’s notice to oil spill events throughout California. During such events, we are responsible for maintaining all paperwork of dead and debilitated birds collected, conducting species identification, documenting oil data, and taking photographic and feather samples from every individual. Without such efforts, effects of spills on seabird populations are unknown. In many cases, documentation is also crucial to holding the responsible parties legally accountable for the impacts of oil spills on wildlife and their habitats. Since 1994, we have responded to six oil spills in this capacity. We also sent a team to South Africa to assist in the response to the 2000 Treasure oil spill, where approximately 20,000 threatened African Penguins were oiled.

**PRBO Response to the Prestige Spill**

Immediately after the Prestige broke in two and the environmental impacts worsened, we contacted the local organization responsible for coordinating the wildlife response component of the spill response, Sociedad Espanola de Ornitología (SEO), the Spanish chapter of BirdLife International. We wanted to determine if they needed our assistance, given our background in oil spill response. We also wanted to ensure that oiled wildlife processing, which is absolutely critical in determining the ecological effects of oil spills, was going to take place. Most countries – and even some other U.S. states – do not have nearly as developed an oiled wildlife response system or oil spill contingency plan in place as does California. In particular, the processing of dead birds often receives a lower prioritization than does oiled wildlife rehabilitation, resulting in very poor understanding of the population effects and inaccurate estimates of mortality resulting
from a spill event. We were very concerned that the response effort in Spain would be hampered by the lack of standardized protocols and perhaps a shortage of local professional ornithologists experienced enough in such matters to implement them.

Upon offering our assistance, we were immediately asked to come and help, provided we had our own funding. Within a mere 24 hours, funds were committed to send the 2 authors of this report - as the leaders of PRBO’s oil spill response team - to Spain to provide assistance and expertise. On November 25th we left San Francisco for La Coruña.

**Work Conducted in Spain**

Just four days prior to our arrival in La Coruña, two other veteran oiled wildlife responders -- Kees Camphuysen from The Netherlands and Martin Heubeck from Great Britain -- had arrived. They set up the initial dead bird processing system, after spending their first afternoon digging out oiled seabirds from a trench where they had been buried. Apparently the people collecting them were at a loss as to what to do with them, and certainly not experienced in how to handle “hazardous materials.” As we had originally suspected, it appeared that no one had until then broached the topic of the importance of conducting oiled wildlife processing.

A laboratory was generously donated in the biology department of the local University of La Coruña for the purposes of oiled wildlife processing and carcass dissections. We arrived and joined the team. As ornithologists we were responsible for the initial processing of the birds, which entailed species identification, ageing and sexing individuals externally, determining extent of oiling, documenting collection location and date, and conducting biometrics (e.g., bill length). After we processed and assigned unique consecutive numbers to each carcass, those in appropriate shape were passed on to a volunteer team of graduate and post-graduate biology students, who conducted intensive dissections on each bird, confirming age and sex, assessing health of various internal organs, and removing stomach samples from each individual for later analysis. These students were not ornithologists but studied marine invertebrate biology, ecology,
herpetology, and other fields, yet they were very angry about the oil spill, were very capable biologists, and were willing to donate large amounts of time to this cause.

We worked in La Coruña until mid-December, spending most of our time conducting wildlife processing. We also surveyed beaches for oiled birds on a few occasions. During the first half of our work there, Martín Heubeck worked with us (Kees Camphuysen having departed on the day of our arrival). During the second half, we were the only ornithologists on the team until the last two days.

During most of this time, SEO was unable to find any Spanish ornithologists (professionals, university professors or graduate students) who were willing to participate in our efforts. While we foreigners could have found interested colleagues from other countries to take over after our departure, everyone realized the importance of putting the responsibility of continuing this work for the duration of the oil spill event in Spanish hands. SEO ultimately found ornithologists from other regions in Spain, one of whom (Ricard Gutierrez) we trained to take over for us before we departed.

Another constant problem for the team was the lack of coordination of the response and the lack of government support for many components of the effort. Obtaining funds for supplies was a great challenge, and an absolute necessity particularly when considering that the team members were working with toxic materials that required safety precautions and personal protective equipment (PPE). We were able to bring some of these materials from the United States. We also purchased additional materials while we were there, once it became apparent that the system for obtaining such equipment through the local government was neither efficient nor satisfactory.

We had ample opportunity during our visit to speak to the press about the problems relating to oil spills, mistakes made during this oil spill, and the importance of thorough documentation on the affects of oil spill events on wildlife populations.

**Preliminary Data Summary**

Upon our arrival in Spain, approximately 250 dead birds had already been processed. We processed an additional 750 birds during our tenure, with an average of 55 birds being collected and processed daily. The primary species affected were
Razorbill (*Alca torda*), Atlantic Puffin (*Fratercula arctica*), Common Murre (*Uria aalge*), Northern Gannet (*Sula bassana*) and European Shag (*Phalacrocorax aristotelis*); see Appendix A for a more complete list of species processed.

Despite the high numbers of Razorbills, the effects might not be as great as on some other species, as most of the individuals collected of this species were juvenile birds. Juvenile mortality is often very high naturally, and the population would be more likely to be affected if high numbers of breeding-age birds, already contributing to the population, were killed. The latter scenario was the case for Atlantic Puffins and Northern Gannets.

Most of the Common Murres affected were likely individuals wintering in or migrating through the area. However, a very local and already highly endangered population of resident murres (a race known as the Iberian Guillemot, with approximately 20 breeding pairs known to exist) was likely decimated by this spill.

We did not conduct any work with the live birds during this spill response. Instead, the International Fund for Animal Welfare (IFAW) was in charge of these operations, cooperating with the state government and local wildlife rehabilitation groups. The IFAW team in Spain included staff from the San Francisco Bay area International Bird Rescue Research Center, many of whom we work with during California oil spill events. Nonetheless, while we were there, the numbers of live oiled birds collected were similar to numbers of dead birds.

**CONTINUED WORK AND PARTNERSHIPS**

Back in the United States, we are maintaining an involvement in the *Prestige* oil spill response. We communicate regularly with all the partners that we met during our stay there, and all of us provide our opinions on how things should be modified as the event goes on and the situation changes. As part of the team responsible for managing and summarizing the data, we will continue to be involved in analysis of data collected during this spill and in manuscript publications and scientific presentations. To date, one such summary has occurred, a paper summarizing the spill and the initial data, published
already in the journal *Atlantic Seabird* (see Appendix B). We will also focus on disseminating our data on a more local scale, including doing a poster presentation at the Pacific Seabird Group conference in British Columbia in February 2003 and presenting this information to PRBO supporters through our newsletter and at an upcoming member event.

The fostering of new partnerships has resulted in the flow of ideas between all the participants. We have brought back to the United States a number of ideas, the primary one being the need to focus on ageing and conducting biometrics on carcasses retrieved during a spill event, in order to determine which age groups and which populations of each species have been most affected. At the end of January 2003, we will meet with the California Department of Fish and Game to discuss the *Prestige* incident and provide any recommendations we have developed. We have given all our new European colleagues — in Spain, Britain and The Netherlands — copies of the protocols we use for oil spill response in California as suggestions for Europe-wide plans being discussed. We have also discussed ideas for conducting Natural Resource Damage Assessments in Europe following the United States model, making the party responsible for the spill also responsible for paying for these damages, and having international oil spill contingency plans for wildlife response; and have provided them with beached marine bird and mammal guides that we use in California in order to assist them in creating similar guides for use in Europe.

**CONTINUATION OF THE PRESTIGE OIL SPILL**

Since our departure, the spill event has continued. Although the daily numbers of birds initially waned, they have more recently grown considerably — some days with as many as 350 birds collected that need to be processed. By mid-January, the total number of dead and debilitated birds collected approached 13,000, and it was estimate that true mortality might be as high at this point as 130,000 birds (SEO 2003). The biologist who took over from us has trained some of the students as well as two other Spanish
ornithologists in processing protocols and data documentation, and the dissections have continued by the team of dedicated students and their overseer, Roberto Bao.

The Galician (state) and federal Spanish governments were initially handling the event very irresponsibly. During the first part of our stay in Spain, they were denying the very existence of the spill, and then later were protesting the severity of it. Much of the economy of the already impoverished northwestern region of Spain, which is primarily based on fisheries and the shellfish industry, has been severely compromised. While we do not know what steps the government will take to improve the situation, before we had left the country they had finally stopped ignoring the problem and admitted that a catastrophe was on their hands. We can only hope that this has led to a much more coordinated, funded and forward-thinking response to this event.

The ship continues to leak vast amounts of oil today from the ocean floor, causing new oil slicks to continually develop. The generally rough seas and winter storms have hindered thorough recovery efforts of the oil slicks, which batter the coastlines primarily of Spain and also of Portugal, France, and Great Britain. There are some efforts underway to plug up some of the holes and cracks that are causing such leakage. However, given the great depth at which the vessel lies beneath the sea and the enormous amount of oil it still contains, it is likely that this tanker will be a problem for the ecosystems and the economies of the area for years to come.

ACKNOWLEDGEMENTS

We are first and foremost grateful to those who made our efforts in Spain a possibility: generous donations were made by an anonymous donor through the National Fish and Wildlife Foundation, the Flora Family Foundation, and an individual PRBO donor. Our Spanish friends and partners continue to express gratitude at our ability to help out with this spill response and to provide materials necessary for our laboratory – especially when so little support was coming from the Spanish government itself – and were amazed at the generosity of the above organizations and individuals.
We are thankful for the internal support and encouragement we received from Ellie Cohen, Bill Sydeman, Sarah Huard, John Baker, and Sue Abbott. We also thank Antonio Sandoval Rey, Carlos Carboneras, and their colleagues from SEO/BirdLife International for helping us during our stay in Spain, supporting the important work being done in the laboratory, and undertaking the immeasurable task of coordinating the wildlife elements of the Prestige oil spill response. We thank the staff at University da Coruña for the use of their laboratory facilities, and the staff and volunteers at the Santa Cruz rehabilitation facility for their assistance in organizing dead birds collected from the beaches.

Finally, we are eternally indebted to the wonderful colleagues we met in Spain who taught us much, worked incredibly hard, and befriended us, including: Martin Heubeck, Roberto Bao, Sherri Cox, Kees Camphuysen, Charlie Hamilton-James, Lucy Hamilton-James, Ricard Gutierrez, Alicia Pallas, Inma Alvarez, Maria Pan, Bea Garcia, Maria Quintela, and Atocha Ramos, as well as the many other students and post-graduate students at University da Coruña. This is PRBO Contribution # 1093.

**Literature Cited**

Appendix A. List of birds oiled during first 20 days of *Prestige* Spill.

Common Loon
Red-throated Loon
Little Grebe
Cory’s Shearwater
Great Shearwater
Little Shearwater
European Storm Petrel
Leach’s Storm Petrel
Northern Gannet
Great Cormorant
European Shag
Black Scoter
Mallard
Bar-tailed Godwit
Common Sandpiper
Ruddy Turnstone
Whimbrel
Great Skua
Common Black-headed Gull
Lesser Black-backed Gull
Herring Gull
Yellow-legged Gull
Black-legged Kittiwake
Common Murre
Razorbill
Little Auk
Atlantic Puffin
Common Kingfisher
White Wagtail
Appendix B. Manuscript published December 2002 in *Atlantic Seabirds*
Opinion

THE PRESTIGE OIL SPILL IN SPAIN

KEES (C.J.) CAMPUYSSEN1,2, MARTIN HEUBECK3, SHERRI L. COX4, ROBERTO BAO5, DIANA HUMPLE6, CHRISTINE ABRAHAM7 & ANTONIO SANDOVAL8


The oil tanker Prestige, carrying a cargo of 77,000 metric tonnes of heavy bunker oil, sank off the coast of Galicia (NW Spain) on 19 November 2002. Most of the Galician coast was severely polluted with oil and hundreds of oiled seabirds were retrieved from beaches in the first weeks of the incident. The decision taken by Spanish authorities to tow the damaged vessel to deeper offshore waters has been described as a criminal act and was the reason why such a large area was affected. Seabird distribution in the offshore waters of Galicia has not been studied well and as a result, the impact of this spill on vulnerable populations is difficult to predict. Preliminary observations during dissections suggest that the most numerous victims (in decreasing order of abundance) have been: juvenile Razorbills (winter visitors), adult Atlantic Puffins (winter visitors), adult European Shags (residents), adult Northern Gannets (passage migrants), and juvenile Common Guillemots (winter visitors). By 23/24th November 2002 it was estimated that over 80% of Yellow-legged Gulls seen in coastal Galicia were oil-soiled, but relatively few of these were found dead or were received in rehabilitation centres. Proper impact assessments of oil spills have often been neglected in the past and would have been neglected here again. It is concluded that we need to be better prepared for dealing with the seabird casualties of the next major oil spill in Europe and that there is an urgent need for a contingency plan for Europe to establish such procedures.

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INTRODUCTION

The Bahamas-flagged oil tanker Prestige, carrying 77,000 tonnes of heavy bunker oil, ran into trouble off the Spanish north west coast on 13 November 2002. The ship appeared to have a long crack in one of its oil tanks amidships
THE PRESTIGE INCIDENT

When the Prestige got into trouble on 13 November 2002, it moved towards the Galician coast between 43°05'N, 10°W (15:00h) and 42°55'N, 9°35'W (19:00h), just off Cabo Fisterra (Cape Finisterre). Early next day, the ship was very close to the shore, at 43°03'N, 09°25'W (off Cabo Touriñán) and it was decided to tug it away in a north-westerly direction. Early morning 15 November the ship was positioned at approx. 43°50'N, 10°15'W (c. 60 nautical miles offshore). Bad weather hindered salvage operations and the oil proved to be too viscous to be pumped into other vessels. Decision making was chaotic, but it was finally decided to drag the vessel further away from the coast, in a south-westerly direction. No harbours were found prepared to receive the leaking ship. On 19 November, at 42°12'N, 12°05'W, c. 130 nm WSW of Cabo Fisterra, the ship broke in two and sank.

When the ship reported trouble, it had already leaked oil from tanks amidships that were severely damaged. Aerial photographs revealed serious damage over at least 40-50 m of the 250m long vessel, so that the risk of breaking was obvious. From the type of oil, heavy bunker fuel oil, it was all too obvious that as with the Erika off Brittany in 1999 (Table 1), it would not respond to spraying by dispersants and any natural dispersion would be very slow. A substantial spill offshore would simply mean that in the prevailing westerly winds of winter, large amounts of oil would come ashore sooner or later, most likely in Spain, but with Portugal and France also at risk. The decision to tow the tanker out into the open ocean, instead of escorting her to a sheltered anchorage or port where she could have been boomed off and unloaded of her cargo with limited or controlled coastal pollution, was an exceptionally stupid decision. The west coast of Spain in winter, as most of the Bay of Biscay further to the north, is a stormy area where depressions from the west arrive one after the other. Short spells of calm weather are followed by periods with violent (westerly) storms. To decide and tow a severely damaged tanker into such seas was, at best, an extremely badly calculated risk against the ship breaking up and causing pollution on a regional if not an international scale (oil washing ashore in Portugal and France, slicks in the Bay of Biscay).

The Galician coast is rocky and heavily indented, with numerous sandy beaches and estuarine areas. The most threatened, coastal important bird areas in Galicia include the Cies and Ons Islands, the estuary of Ria de Arousa, the Costa da Morte, the Ferrolterra-Valdoviño coast, and Cape Candalaria to Cape Estaca de Bares, including the Ortiguera estuary (Viada 2000). Resident seabirds at risk are European Shag Stictocarbo aristotelis, Yellow-legged Gull Larus michahellis, Lesser Black-backed Gull Larus fuscus, Black-legged Kittiwake Rissa tridactyla and the rare Iberian race of the Common Guillemot...
Table 2. Seabirds potentially at risk along the Galician coast in November/December (after Paterson 1997; Purroy 1997; Antonio Sandoval Rey, unpubl. data.).
Tabel 2. Zeepaarden in het vergelijk gebied voor de kust van Galicië in november/december (naar Paterson 1997; Purroy 1997; Antonio Sandoval Rey, ongepubl.).

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population (small size). The overlap in size between Iberian Common Guillemots and birds from France and southern Britain is considerable, however, and there is currently no accurate means of assessing brooding origin of these auks with certainty except through ringing (Hope Jones 1984).
accumulated, and for the release of birds successfully cleaned and restored to health. There is an urgent need for a contingency plan for Europe to establish such procedures, to ensure that individual countries and regions pre-identify organisations and locations that should be utilised in such a response and what their roles would be, and to ensure that there is a clear understanding that the reasonable (and relatively minor) costs involved in such a response should be recoverable from the insurers of the offending vessel - under the principle that the polluter pays.

ACKNOWLEDGEMENTS

The scientific staff of Facultad de Ciencias, A Coruña University were extremely helpful with setting up facilities for the examination of the oiled birds and their exceptional hospitality and efforts to organise the logistics was greatly appreciated. Thanks to their efforts and co-operation, a programme of identification, ageing, sexing and autopsy was established. We are hugely impressed by the enthusiasm of the numerous graduate and post-graduate students that participated in and continued with this work: María Pan Adón, Beatriz García Calvo, Patricia Verdúmo Amor, Alcina Pallas Loreno, Silvia Carabel Chans, Immaculada Alvarez Fernández, Viviana Peña Freire, María Quintela Sánchez, Ricardo Ferreiro Sanjurjo, Cristina Urea Portela, Pablo Serrantes Gómez, Antonio Gómez Heredia, Lidia Cousseiro López, Mercedes Fresse Cane, Laura García Pérez, Alexandra Ruma Díaz, Pilar Cachero Martínez, María Fernández Boin, María Reparaz Pereira, Eva Riveiro Nogueira, Vanesa Rico Fraga, Anaïs Ramos Martínez, María Souza Alonso, and Antonio Vázquez Corral. Volunteers and staff of the Centro de Recuperación de Fauna Salvaje de Santa Cruz (Obidos, A Coruña), most particularly Pedro M. Zaí Aventin, kindly co-operated in storing dead birds retrieved from beaches, even although the language barrier must have made them wonder why we were so interested in having those. Carlota Vida (SEO/Birdlife Madrid) kindly arranged overnight accommodation and was prepared to advance some necessary payments. SEO was instrumental in the organisation and co-ordination of volunteer input on the Galician beaches with the recovery of oiled birds. The National Fish and Wildlife Foundation, Flora Foundation, and John Wagner sponsored the trip to Spain for DH and CA. Our warmest thanks to them all.

DE OLIERAMP MET DE PRESTIGE IN SPANJE

De olietanker Prestige, geladen met 77.000 ton zware stookolie, raakte medio november 2002 voor de Spaanse noordwestkust in de problemen. Toen de kapitein dit voor het eerst wereldwijd maakte, bevond het schip zich op korte afstand van de kust ter hoogte van Kaap Finisterre. Aan de zijkant van het 250 meter lange schip bevond zich een 40-50 meter lange scherf en uit de beschadigde tank verloor het schip grote hoeveelheden olie. De Spaanse autoriteiten meenden van het probleem af te kunnen komen door het schip naar open zee weg te slepen en nadien de motorbemanningssleden van boord gehaald waren werd het wrak naar een positie op ongeveer 60 mijl ten noordwesten van de kust gebracht. Eenzelfde daar aangekomen bleek dat het schip niet lang meer drijvend gehouden kon worden en na een chaotische reeks van tegenstrijdige beslissingen werd het schip in zuidwestelijke richting naar Portugese wateren getrokken. Op 17 november brak het schip in twee stukken en zonk in 3500 meter diep water op 43°12’N, 12°05’W, ongeveer 130 mijl westzuidwestelijk van Kaap Finisterre.

De beslissing om het schip naar zee te slepen is de grootste blunder die men had kunnen begaan. In plaats van het schip naar een beschutte baai of haven te slepen, waar de onzichtbare vervalsing beter te controleren en op te nemen zou zijn geweest, werd getracht de kust te vrijwaren door het schip op afstand te houden. Het gevolg is dat de olie een veel groter deel van de Spaanse kust heeft besmeurd, terwijl het zo goed als onbereikbare wrak nog steeds olij lekt, waardoor het
Appendix C. Photographs

Some participants of the Prestige dead bird processing lab team in La Coruña.

Chris Abraham conducting biometrics on dead juvenile Yellow-legged Gull
Four of the most common birds collected during Prestige response in November and December: European Shag, Atlantic Puffin, Common Murre, and Razorbill.

Oiled Atlantic Puffin we collected during a beach survey, Baldaio Beach, Galicia.