

**SPILLCON 2004 – PARTNERSHIP IN PRACTICE**

**AUSTRALIAN INVOLVEMENT IN THE PRESTIGE INCIDENT,  
SPAIN -WILDLIFE TREATMENT AND REHABILITATION**

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## Introduction

The tanker 'Prestige' sank off the coast on Galicia, northern Spain on November 14, 2002. Salvage officials reported that the vessel which was carrying at least 77,000 metric tonnes of heavy fuel oil sank after breaking apart. The vessel was about 250 kilometres from the Spanish coast when it started to break up. The Bahamas-flagged and Greek-owned 'Prestige' appeared to have a crack in one of its oil tanks. An oil slick, some 9 km long, was reported by the 15<sup>th</sup> of November.

By November 20, the International Fund for Animal Welfare (IFAW) – Emergency Relief had a team of oiled wildlife specialists in Spain. IFAW were asked to assist by SEO/Birdlife in Spain and their assistance was supported by regional Spanish wildlife authorities (Xunta).

Some twenty different species of birds were handled during this response. The species included: Gannets, Razorbills, Guillemots, Loons, Puffins, Scoters, Shearwaters, Kittiwakes, Skuas and Storm Petrels. Releases of clean and rehabilitated birds took place for most species in Portugal, some seven hours drive south at the nearest suitable location which had not been impacted by oil. Some releases of Great Cormorants and Crested Cormorants were able to take place locally at bays not impacted by oil.

Sea turtles covered in oil were also admitted to the O Campino Centre until transfer to a specialised sea turtle centre could be arranged.

The IFAW Emergency Relief Team is made up by individuals with significant wildlife rehabilitation experience in particular in oiled wildlife response. A large proportion of these individuals are either employed or associated with the International Bird Rescue and Research Center (IBBRC), a US based organisation. Other team members originated from Tri-State Bird Rescue, also a US based organisation. Additional team members at the Galician response originated from South Africa, UK and Australia.

It is considered worthwhile for Australian future preparedness to develop and maintain a working relationship with the IFAW emergency relief team and others with expertise globally such as the International Alliance of Oiled Wildlife Responders. The Australian exposure to oiled wildlife response within our continent is (fortunately) limited. The international team's exposure to a large number and variety of spills and subsequent experience may be beneficial to Australian preparedness for future spills. It is recommended that continued networking and exchange of information takes place so that new developments can be assessed and or adapted for Australian use.

This report aims to identify lessons learned and application of techniques to any future oiled wildlife response in Australia.

## **Methods used**

### *Admission*

Birds were first taken to a stabilisation centre near La Coruna and then transferred to a larger centre in Pontevedra where the IFAW team had established a wildlife treatment and rehabilitation centre. In Pontevedra, a forestry department building was converted to an oiled wildlife treatment centre with all the necessary elements and equipment to enable wildlife care. The admission area where 'dirty' birds were housed was set up in a large tent. This tent measured approximately 8 meters by 20 meters. This tent was heated with large fan driven room heaters.

Upon admission birds quickly examined and records for each specimen established. Details recorded were:

- Site found
- Body temperature
- Percentage oiled
- Percentage dehydration
- Name examiner (veterinarian)
- Drugs/ treatment administered
- Weight

Blood samples were also taken at this time for analyses of PCV, TP and BC. Birds were then housed in 'net-bottomed' cages until their condition was stabilised for the washing and rinsing process. Net-bottom boxes were constructed out of wood and netting. These measured approximately 1 metre X 1 metre square and 1 metre high. Rather than a solid bottom, a taut net would allow faeces to drop through the net to the floor. Net-bottoms are also thought to assist with the prevention of a condition called 'Bumble foot' and soiling of birds with faecal matter.

Further holding for larger birds was constructed out of wood and netting.

Birds in this area were given re-hydration solution and a 'mash' ('Mazuri' flamingo mix) by gavage at regular 2 hourly intervals throughout the day. Fish was also offered but not force fed.

Once the bird's blood parameters improved to minimum values the birds were approved for the washing and rinsing process.

### *Washing*

A suitable wash room was set up in the forestry building using one of the shower/bathroom areas available. A large number of instant gas hot water facilities were established on site.

Waste water was stored in large drums and pumped into larger storage containers elsewhere on site. These large drums were later taken away for environmentally sound disposal.

Due to the nature of the heavy fuel oil, the oil was diluted with Metho oleate prior to the birds being washed. Further information on Metho oleate (MSDS) is required before use in Australian spills.

Detergent used: 'Dawn' by Proctor and Gamble

Staff and trained volunteers washed birds in pairs. The area had the ability to comfortably fit 3 pairs of washers.

### *Rinsing*

The other shower/bathroom area in the building was used for rinsing the detergents out of the bird's feathers with high pressure shower nozzles. This area was able to also fit 3 teams of rinsers. Birds were held by one person while the other directed the shower nozzle.

### *Drying room*

The drying room consisted of a large open space with series of 'net-bottom boxes' and wood and cloth cages for the larger species. Birds were dried with hot air fans directed at the animal or bounced off walls to diffuse the airflow.

### *Pools*

A series of above-ground pools were constructed on a soccer-field adjacent to the forestry building. The pool area consisted of five large round pools of an approximate diameter of five meters, ten rectangular pools measuring approximately 2.5 meters by 6 meters. Some small pools were constructed out of straw-bales and plastic.

Birds were kept in this area until assessed suitable for release.

### *Release assessment*

Assessment for release took place for each clean bird every 3 days. This consisted of blood analysis, weight assessment and water proofing assessment.

- Blood parameters for release were: PCV range 45 – 53 %, BC less than 2% and TP between 3.0g/dl and 6.0g/dl.
- Release weights were established based on data for local weight in the wild for the species.
- Waterproofing was assessed by floating the birds in pools for a period of time without access to perches. The birds were then observed for behaviours indicating chilling, excessive preening and stress. Gannets were floated for 3 hours and Razorbills, Guillemots, Puffins etc for 48 hours. After removal from the water the bird's feathers/skin were checked for any signs of non-water proofing.

### *Release*

Most release took place off the coast of Portugal at the nearest suitable location not impacted by oil. This was approximately 7 hours drive south. Some Cormorants and Shags were able to be released locally, up deep bays not impacted by oil.

## Discussion

Most of the techniques used by the IFAW emergency response team are standard practice in wildlife rehabilitation and oiled wildlife response. Of most interest to Australian preparedness is where there were discrepancies in techniques used by the IFAW Team and those currently recommended for use in Australia. These are of interest because:

- Individuals involved in the IFAW Emergency Relief Team have considerable experience and expertise. Their techniques have been applied on a larger scale than has been possible in Australia.
- If a large spill were to happen in Australia it is likely that international assistance with wildlife may be required. It is essential during a response that agreed techniques are used.

Before recommendations for application of these techniques for use in future spills in Australia can be made it may be necessary to further explore the reasons for the application of these techniques and examine the research and analysis of results of various techniques. The techniques requiring further discussion are:

- Use of haematological analysis
- Use of Incident Control System (ICS)
- Reluctance to force feed bird
- Veterinary procedures (including preventative for aspergillus)
- Record keeping
- Use of 'net bottom cages'
- Occupational Health and Safety procedures
- Use of hay-bales in pool construction

### *Use of haematological analysis*

Upon admission blood is collected from each bird and analysed for Packed Cell Volume (PCV), Total Protein (TP) and Buffy Coat (BC). Birds are not washed until minimum parameters in blood values are reached. It is believed that birds with significant anaemia in particular will be less likely to withstand the stressful washing process. Haematological analysis is a useful tool in assessment of the animal's condition. The question that remains however is: if the deterioration of the bird's condition was caused by exposure to oil, continued exposure to oil may in fact further deteriorate its condition. Oil can be inhaled, absorbed through the skin and ingested by preening. Birds were not given ponchos to prevent preening and subsequent ingestion. In discussion in IFAW/IBRRC staff it was stated that their experience had shown significant increase in survival rates by not washing birds until the blood parameters improved. Robust research comparing survival rates using different techniques ie using ponchos or washing before blood values are considered acceptable is recommended.

The analysis of blood as a release criterion appears sound and does not require further investigation. This would however have implications for any response in Australia as it will require additional equipment and staff capable of collecting and analysing bird blood.

### *Use of Incident Control System*

Use of any incident control system was not evident in the Prestige response. ICS will be used during an Australian spill and any staff either national or international must be familiar with the incident Control System to be used for the response.

### *Force feeding birds*

The international team seemed reluctant to force feed birds, particular those which had been washed. Some individuals did force feed birds, others appeared reluctant. No force feeding of fish for example took place in the admission area whilst tube feeding did take place. In Australia force feeding is used as a standard practice for birds which fully re-hydrated but are not eating well. (Sea birds generally do not recognise dead fish as food item but can, with time, be taught to feed from the hand but force fed initially). Further discussion with international oiled wildlife response teams on this topic should take place to develop a consolidated approach.

### *Veterinary procedures*

There did not appear to be any documented veterinary procedures for the spill in Galicia. Veterinarians on site who were IFAW team members did appear to adhere to the same treatment regimes and pass this on to the Spanish team who eventually took over the veterinary care of the birds. There appeared some confusion over the amount and frequency of some preventative medicine being used. Different veterinarians on site quoted different frequencies of administration. It is recommended that standard peer-reviewed veterinary techniques are developed for use in Australia which needs to be flexible enough to adapt to each incident but would provide a basis for a consistent approach. The latest writing on this topic by Dr. Richard Norman is included in the publication *Rescue and Rehabilitation of Oiled Birds* (Walraven 2004) and is recommended as a veterinary protocol for use in Australia.

### *Record keeping*

Hard copy records of all birds and their treatments were kept during the 'Prestige' spill response. This did not allow for easy retrieval of records and it is recommended that Australia continues to improve on the electronic record system developed here in 1998 by S. Vaartjes and E. Walraven under the direction of AMSA.

### *Net-bottom cages*

Net-bottom cages are used by a variety of oiled wildlife response teams around the world. These reportedly prevent the development of 'bumble-foot' a condition prevalent in seabirds which come into captivity. Net-bottom cages also allow for any faecal material to drop to the floor without soiling the bird's feathers. 'Bumble-foot' often starts as a skin lesion and can develop into a debilitating osteomyelitis which may even require the animal to be euthanased. Bumble-foot can be prevented by having appropriate flooring for the birds.

Although the net-bottom cages did appear to prevent bumble foot, it also appeared to create a different problem. Many birds, particularly puffins and

razorbills suffered lesions of the hock, causing a similar osteomyelitis as seen with advanced bumble-foot. In discussion with IFAW team-members this may have been due to the fact that the knotless cotton netting normally used was not available and more abrasive nylon netting was used. The net-bottom cages are recommended for use in Australia only if the suitable knotless netting is used.

#### *Occupational Health & Safety*

The dedicated IFAW team worked long hours but also many days without a break. Some team members worked in excess of 50 days without any rostered days off. It is of concern that accidents or illness could occur when staff may have worked excessive hours, this may cause liability issues. It is essential that OH&S advice is adhered to regarding the maximum hours/days are that staff can work during an oiled wildlife response in Australia. This advice must be consistent with Australian regulations.

#### *Use of hay-bale pools*

Most pools constructed during the 'Prestige' response were commercially available above-ground pools. Some additional pools were constructed using hay-bales and plastic sheeting. Exposure to hay or straw is of significant concern as this is known to potentially cause *Aspergillosis* in the birds. Seabirds are particularly susceptible to the development of *Aspergillosis*; a respiratory disease. Prevention of this disease in captivity is of utmost importance and the use of straw or hay in any construction of facilities during an Australian oiled wildlife response is not recommended. The IFAW response team used this material due to lack of access to other materials at short notice and do not support the use of this material in future.

NB During oiled wildlife response in Australia, the use of drugs to prevent an outbreak of *Aspergillosis* is recommended under veterinary direction and as per specific veterinary protocol for the response.

#### *Conclusion*

IFAW reports show that the number of birds admitted since the beginning of the spill was in excess of 1,700. The exact total of birds released is not available.

The experience gained by the Australian delegates Elizabeth Hall, Michael Short and Erna Walraven by being part of the international oiled wildlife response team is of significant benefit to the further development Australian contingency plans for oiled wildlife.

In particular the expertise of the international team with regards to feather care and water proofing was considered to be of benefit to any future Australian experience. Lessons learned include expanded knowledge on the care for cleaned birds, water quality and the use of preventative measures for 'keel lesions' for species such as loons and grebes.

#### Acknowledgements

I am grateful to the Australian Maritime Safety Authority for their support which allowed the attendance of Australian delegates to observe and participate in an international oiled wildlife response. Gratitude is also due to the International Fund for Animal Welfare's Emergency Response Team for sharing their knowledge with the Australian wildlife responders, their good humour and dedication. I am particularly indebted to Barbara Callaghan for fruitful discussions on the various topics discussed in this paper.