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HANDBOOK ON OIL IMPACT ASSESSMENT

1.0 INTRODUCTION

There has been a long, world-wide history of oil spills and associated mortality of marine wildlife (Dunnet 1982, Clark 1984, NRC 1985, Clark 2001). Despite recent declines in the amounts of oil released or spilled into the marine environment, chronic oil pollution is still a reason for concern (Camphuysen 2007), and within the European Union, major accidental oil spills (>20 000 tonnes) still occur at irregular intervals (European Environment Agency 2001, 2004).

Oil spills have tended to surprise the responsible authorities and any response has often had to be improvised. Published evaluations of oil spill scenarios have shown that in terms of dealing with wildlife casualties, such responses were often either chaotic, counter-productive, or at best inefficient. Pre-planning for such emergencies can not only enable a more efficient and co-ordinated response, but in many circumstances can help limit environmental damage and the number of animals that suffer the miserable fate of becoming oiled. This handbook is intended to provide wildlife response guidelines for best practice in the event of a spill. Three issues are addressed:

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| (1) being prepared for a spill | Chapter 3.0 |
| (2) assessing the damage during a spill | Chapter 4.1 |
| (3) biological advice to minimise further damage during a spill | Chapter 4.2 |

Preparedness (Chapter 3.0) So, if a major oil spill happens on *your* coast, how would you deal with it? Are you prepared? Any oiled wildlife response should be integrated into the overall spill response to ensure cost-efficiency, access to resources, and help minimise further damage. Although there have been significant improvements and successes in the rehabilitation of oiled wildlife, it is much better wherever possible to prevent wildlife becoming oiled, for example by directing initial clean-up operations to the most sensitive areas. Does your coastline have a contingency plan for an oiled wildlife response (including trained wildlife responders)? Where are the most sensitive sea areas for vulnerable wildlife? Which species are most at risk, and at what time of year? Who should be contacted to become involved in the response? These are basic questions that can be answered before a spill occurs, and this manual provides guidelines on matters of preparedness, such as

- Evaluating sea areas in terms of sensitivity to oil pollution 'beforehand'
- Collating existing data, and where would updated information come from
- Who should be involved in a spill response
- What materials, facilities, and personnel are available

Impact assessment (Chapter 4.1) Once an oil spill has taken place, how serious is the impact likely to be, and could there be detectable effects at the population level for particular species? To answer such questions, high quality data must be collected from the very start of the spill, with the help of (preferably local) experts. These data can help prioritise actions during the event, including priorities for rehabilitators, and are crucial for a proper evaluation afterwards. This manual provides guidance on what data are needed and how they should be collected, the difficulties involved in this kind of work, and options for dealing with live and dead oiled birds

In planning for a response, geographic options need to be considered on where to locate the various facilities. In some circumstance, facilities needed for an impact assessment may be integrated with those for the rehabilitation of oiled birds, but it should be recognised that these aspects of the response have very different requirements in terms of personnel, infrastructure, hygiene, and security. In order to meet the management requirements under different scales of incident magnitude, a tiered response system for wildlife response needs consideration. The health and safety of responders should be ensured, and proper and legal waste disposal must be considered. Finally, a financial tracking system is essential, and it should be established at the outset whether the activities are liable for compensation, and if so, who will pay the bills? This manual provides practical guidelines on:

- Organising the response
- Who to contact for specialist expertise
- Establishing a wildlife response centre
- Who should be involved, and in what roles
- Recruiting and managing volunteers
- Health and safety issues
- Planning and conducting beached bird surveys
- Establishing facilities for post-mortem examinations
- Conducting drift experiments
- Disposal of contaminated waste
- Financial aspects of the response, and the potential for compensation
- Assessing the overall impact on affected species

Biological advice (Chapter 4.2) When a spill actually takes place, desk study data on species and numbers at risk should be readily available (Preparedness, Chapter 3.0). However, it is likely that this information is outdated. Local experts should therefore be contacted for the most recent data, providing biological advice to responders. This information should confirm that the most biologically sensitive areas are recognised, help plan for changing scenarios in the event of a prolonged spill, and assist in the immediate response as an interface between the technical responders and the scientific and environmental community. This manual provides guidelines on matters of biological advice, such as

- How to re-evaluate a sea area in terms of sensitivity to oil pollution
- What data should be mobilised and analysed
- How to provide updated advice to help minimise further oiling of wildlife
- How to provide updated advice on near-future, worst case scenarios and best practice

Project Impact of oil spills on seabirds

The key objective of this project, facilitated by a grant from the Community Framework for Cooperation on Accidental and Deliberate Marine Pollution (Grant Agreement no.07.030900/2005/429207/SUB/A5), was to discuss goals and previous experiences with leading experts on an international workshop and to produce that required set of guidelines (this manual) with concrete research recommendations to be of use in future incidents. The project was structured around a central workshop, with a desk study preceding that event and a desk study following the meeting to structure and prepare the discussion and the handbook resulting from the project. While the initial aim was to focus on the impact assessment of any spill, recent experiences in Estonia (2006), a report commissioned by IFAW (International Fund for Animal Welfare) on the scale and impact of chronic oil pollution in Europe (Camphuysen 2007), as well as the discussions during the workshop in A Coruña showed that area assessments deserved equal attention.

Preparations

Between 7 and 9 September 2007, 20 delegates; government officials, scientists and NGOs from 11 European countries (10 EU Member States and Norway, see Annex 1) gathered in A Coruña, Spain, to discuss best practices on data collection and analysis for the assessment of impacts of oil spills on seabird populations and the anticipated contents of a handbook. The workshop was organised by Royal NIOZ, the University of A Coruña and Sea Alarm Foundation.

The workshop was convened to agree on protocols to be laid down in a set of guidelines, called “*The Handbook on Oil Impact Assessment*” that was to be made available on the internet for future consultation and updates. The manual is intended to guide scientists and other responders in future oil incidents. It will be made available as PDF documents at www.oiledwildlife.eu. The handbook should be easy to use and should describe methods and tools that can be applied even under the most difficult and stressful circumstances.

Production and access

Following the workshop, a Version 1.0 of the manual was prepared and distributed for review. The *Handbook on Oil Impact Assessment* is a web publication that consists of numerous documents and web links. Any of these can be updated at any stage, and in the event of a spill, the latest version should be available for download, including highly practical tools such as shopping lists and forms. The entire handbook is available for download at:

<http://www.oiledwildlife.eu/>

Updates

Edition 1.0 is the end product of the project “Impact of oil spills on seabirds”, whereas major updates will be numbered 2.0, 3.0 etc., and web-posted when completed. Smaller updates will be listed on a separate page {Web updates}, with a date and a brief description of the update. The most recent update will be on top.

Parallel initiatives

Two parallel projects took place, co-funded by DG Environment of the European Commission, one with a workshop organised in Brest (France) on general aspects of oil spill response and led by Sea Alarm (‘European oiled wildlife response planning’), and one on oiled seabird rehabilitation issues with a workshop in Albufeira (Algarve, Portugal) and led by Zoo Marine (‘Oiled wildlife rehabilitation’).

European oiled wildlife response planning

Project partners: Sea Alarm (lead), CEDRE, IFAW, ICRAM, SYKE, ITOPF, OSRL

Duration: February 2006 - August 2007

The overall objective of the project is to initiate the exchange of information and experiences between the different Member States regarding oiled wildlife response, to develop a set of tools and a draft international response plan by which Member States, individually and/or jointly, could achieve a higher state of preparedness for oiled wildlife incidents in a rational, cost-efficient way.

Oiled wildlife rehabilitation

Project partners: ZooMarine (lead), Sea Alarm, IFAW, ICRAM

Duration: February 2006 - February 2007

The objectives are to bring European marine wildlife responders from all coastal Member States, Norway and Ireland together to exchange experiences in the field of sea animal assistance at European level, especially on methodologies and approaches to clean and rehabilitate oiled birds and other animals under the conditions of an oil spill response; and to develop guidance on the collection, cleaning, rehabilitation of oiled sea animals as an integrated part of an oil spill response based on the experiences of the workshop participants, international experts and other internationally available information on the subject.

Together, these projects are meant to provide consistent information to be used while combating and responding to future oil spills in Europe and are aimed to minimize wildlife damage.

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