A Qualitative Comparison of National and Regional Approaches to Multi-Stakeholder Oiled Wildlife Preparedness and Response

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INTRODUCTION

The California Oiled Wildlife Care Network (OWCN) has served as an example of what is possible in Tier 2 oiled wildlife preparedness and response through the application of academic rigor, programmatic funding and multi-stakeholder partnering (Newman et al., 2003). As the importance of pro-active wildlife response preparedness has become more widely recognised internationally (Kelway et al. 2014), many countries and stakeholders have looked to California as an example and inspiration for other national and regional approaches to preparing for and responding to oiled wildlife incidents. Through a series of interviews with stakeholders in California as well with stakeholders involved in other national and regional preparedness initiatives in Brazil, New Zealand, Japan, The Netherlands and the European Union, this paper will reflect on key developments and lessons-learned from the California system and how it has influenced and compares to other national and regional approaches. Finally, this paper will highlight insights from these initiatives that may be of relevance to ongoing international efforts by stakeholders to integrate wildlife response preparedness into government and industry preparedness systems in line with accepted good practice (IPIECA, 2014).

METHODS

A series of semi-structured interviews were conducted based on a pre-defined interview guide. Interviews were undertaken with California based stakeholders of the Oiled Wildlife Care Network, including from the Karen C. Drayer Wildlife Health Centre at the University of California, Davis (from where the OWCN program is managed), the California Department of Fish and Wildlife's Office of Spill Prevention and Response (OSPR), and Member organisations International Bird Rescue and the Marine Mammal Center. Interviews were then conducted with a key stakeholder from each of five other countries or regions that have experienced oiled wildlife incidents and where some preparedness developments have occurred. This included Wildbase at Massey University in New Zealand, Aiuká in Brazil, NRDA Asia in Japan, SON Respons in The Netherlands and the Sea Alarm Foundation regarding Europe-wide preparedness efforts.

RESULTS AND DISCUSSION

Lessons learned from the California System

According to the University of California, Davis (UC Davis) the founding vision of the OWCN was "to make California the most proactive region in the world for oiled wildlife response" (The Regents of the University of California, Davis campus). The history of oiled wildlife response in California and the development of the OWCN in the 1990s has been well documented (Newman et al., 2003). Today the OWCN has over 40 member organisations and more than 1300 trained responders and has responded to over 75 marine and inland oil spill incidents.

Notable changes to wildlife preparedness and response since the OWCN was instituted include a mandate for and greater focus on field operations including reconnaissance, hazing and deterrence,

and field stabilisation. Providing immediate care to oiled animals through field stabilisation has increased animal survival. Other changes include the incorporation of technology into response. The development and use of a Wildlife Recovery iOS application and an Oiled Wildlife Rehabilitation Medical Database (OWRMD) have enabled an end-to-end digital system for electronic reporting and record-keeping to increase accuracy, efficiency and real-time use of data (Clumpner et al., 2018). The OWCN's training program has also been expanded and standardised. Finally, increased OWCN staffing at UC Davis has meant that there are more full-time staff managing key areas of readiness and response.

OWCN stakeholders were asked to name what they saw as the key strengths of the approach to wildlife response preparedness in California. Several key themes emerged:

1. Science-based approach: The OWCN has incorporated a driving mission to apply up to date science and to provide best achievable care to oil affected wildlife. The OWCN also offers one of the only research grant programs dedicated to oiled wildlife rehabilitation and response. The involvement of a leading School of Veterinary Medicine (UC Davis) has also raised the profile of oiled wildlife response in a way that may have taken much longer for individual non-profit rescue organisations to achieve.
2. Collaboration: As a network, the OWCN has woven together a variety of organisations and skillsets to optimise wildlife response efforts. The participation of a diverse range of network members was seen as a key strength which has helped to democratize oiled wildlife response. The concept of mutual aid has also been a constant for the OWCN – bringing in other response organisations from outside of California when needed and offering support to other national and international incidents. The global activities and profile of International Bird Rescue, a key network partner that also manages the two primary care facilities in the State, has also encouraged many international visits to and internships at these facilities. Delegations from e.g., Brazil, The Netherlands, Belgium, Russia and China have toured the OWCN facilities. Often these individuals have taken ideas back to their home countries as part of their own preparedness efforts.
3. Coordination: The involvement of a large number of participating organisations also requires good coordination. The role of the OWCN management team at the Karen C. Drayer Wildlife Health Center, who are responsible for the OWCN's readiness and response activities, was seen as an important factor in the Network's success. In particular, the benefit of having a coordinating body that can interface between government, network members and other key stakeholders (e.g., the public and the oil industry) has been key.
4. Legislative mandate, funding and integration: The OWCN program is built on a clear legislative mandate, which enables effective integration with oil spill planning and response in California and provides the network with sustained funding. The existence of the Office of Spill Prevention and Response as the state's lead for oil spill response, including oiled wildlife response, enables integration of wildlife response operations. The application of the Incident Command System (ICS) by the OWCN also provides a standard approach that support this integration with the wider oil spill response structure. Without ICS as a common language the marriage between the state and the network would have been more difficult to achieve. The response structure in California also provides clarity to other stakeholders, including the oil industry. Over the years the industry has become a strong supporter of the network and has actively participated via the OWCN's Advisory Board. The perception from the interviewees is that the industry has benefited from the training and planning they are required to do. The OWCN also provides public cover in the event of an oiled wildlife

incident as the Network is perceived favourably and is seen as having competent responders and a professional approach to oiled wildlife response.

Global perspectives on preparedness efforts

While not an exhaustive list of countries where efforts to advance wildlife response preparedness have been catalysed, interviews were undertaken with stakeholders from New Zealand, Brazil, Europe (regarding developments in The Netherlands and Europe-wide), Japan and New Zealand.

1. New Zealand: As with the California system, a leading veterinary science institution – Massey University – plays a formal role in oiled wildlife preparedness and response for New Zealand (NZ). Massey University has held a contract with the NZ Government (Maritime New Zealand) since 1998. While not a network model, Massey University is responsible for all aspects of wildlife preparedness and response through their own personnel at Wildbase and through a trained national oiled wildlife response team. In doing so they have looked to the OWCN system both for inspiration – emulating some of the California processes and procedures - and support during incidents. The relationship between the NZ Government and Massey University is well-established and oiled wildlife response is well integrated into government systems. In fact, the inclusion of wildlife response in oil spill exercises is a Key Performance Indicator (KPI) for the government. Since the Rena spill in 2011 oiled wildlife response has been integrated across all functions in the NZ Coordinated Incident Management System (CIMS). There has also been an increased focus on primary and secondary response strategies (IPIECA, 2017).
2. Brazil: Developments in Brazil were largely triggered by the Guanabara Bay spill in 2000. This was the first time that CRAM, a University from Southern Brazil, was hired by the national oil company, PETROBRAS, to respond. Since 2000 wildlife responders in Brazil have developed strong links to the international wildlife response community via the Effects of Oil on Wildlife Conferences and international response efforts. In 2000, a site visit to California was also undertaken by Valeria Ruoppolo (co-founder of Aiuká) to tour the OWCN's Primary Care Facility in San Francisco Bay and to meet with International Bird Rescue and OWCN personnel. In 2008, legislative changes meant that oiled wildlife response became a legal requirement in any oil spill response. In 2011 a requirement of oiled wildlife response capability was built into the permitting process for oil exploration and production. Further developments since then have led to the development of an oiled wildlife care network, developed by PETROBRAS on the request of IBAMA, the government authority.
3. Japan: Interest in oiled wildlife response in Japan was triggered by Nakhodka spill in 1997, with wildlife response efforts supported by Curt Clumpner, a senior wildlife responder from International Bird Rescue. Following the spill, a Symposium was organised in Tokyo in 1997 where representatives from the California OWCN were invited to participate and present on oiled wildlife preparedness and response. This prompted government to revise Japan's emergency plan and establish the national waterfowl rescue training center, which was opened in 2000 and utilised for an international training led by the International Fund for Animal Welfare and International Bird Rescue to build local response capability amongst wildlife groups in Japan.A Natural Resource Damage Assessment (NRDA) process was also implemented after Nahodka by the Oiled Bird Information Center (now JEDIC). Since then there have been a number of incidents where wildlife veterinarians have assisted emergency response efforts, including the Japan Earthquake in 2011 and the Crimson Polaris spill in

2021, where NRDA Asia conducted a natural resource damage assessment in cooperation with Maritime Disaster Prevention Center. However, the lack of relations between wildlife groups and the oil industry and political sector has limited support and integration. In parallel the pool of experienced responders as decreased with individuals involved in the Nahodka retiring from the field.

4. Europe: Activities in Europe were triggered by large oil spill incidents in the late '90s and early 2000's (e.g., in Germany, France, Spain, and Belgium). These showed that national authorities had no strategy for oiled wildlife response. Response efforts were all about improvisation and wildlife response organisations were not integrated with wider response efforts. Wildlife NGOs have kept the conversation going over many years, sharing experience and standardising care protocols. Sea Alarm Foundation was founded in 1999 as an initiative born out of this wildlife rehabilitation community with the aim to bring together the wildlife response community across Europe and to achieve more formal recognition and integration with government and industry stakeholders. Sea Alarm sought funding to initiate two levels of collaboration: in Europe (EUROWA), and globally (GOWRS). EUROWA was initiated in 2015 with EU funding, with a further 2-year project funding since then. EUROWA has increase formal cooperation of European oiled wildlife responders and the funding has enabled the development and delivery of EUROWA training courses to support consistent response and animal care standards. There has also been a focus on engagement with regional and national authorities in Europe and EUROWA now has the formal right to speak with authorities via the Regional Seas Agreements. EUROWA is unique as a network as it brings together entities from different countries. This has really benefited the cascading of resources from elsewhere in e.g., the Bow Jubail oil spill in The Netherlands in 2018. While the structure of EUROWA is not necessarily informed by the OWCN, the European animal care protocols have been informed by US protocols (through e.g., interactions at conferences, international spills, visits to OWCN Facilities etc.). Funding has also been much more limited than in California, with much being driven through sweat equity from Sea Alarm. Legislative changes in the US and in California has enabled longer-term planning and investment in the State. This has not occurred in Europe. The focus has been more on the operational side of response rather than legislative changes. There is also no unifying incident management system in Europe. This has led to a disconnect between at-sea and shoreline response, which Sea Alarm is now trying to highlight and address.
5. The Netherlands: Significant developments were catalysed in The Netherlands over the last two decades. Significantly, Sea Alarm Foundation was founded in 1999 in the Netherlands to bring together the wildlife response community across Europe. Although moving their home base to Belgium, Sea Alarm has continued to help drive and support efforts to improve preparedness and formalise cooperation on oiled wildlife response in The Netherlands. A first wildlife response plan was developed in 2009. At this time different rehabilitation centres began trying to organise themselves into a network. Things have really taken off since then based on recognition and funding from Rijkswaterstaat (RWS) – The Directorate General for public works and water management – who have a statutory role in responding to pollution incidents at sea. As in many countries, government responsibilities can be fragmented between national and local and across different areas. RWS recognised that each different governmental stakeholder had an expectation that another entity would take responsibility for oiled wildlife response, leading to a gap. Although wild animals fall under a different government deptartment, out of courtesy RWS have formally taken responsibility for oiled wildlife response as they are also accountable for incidents and oil spill clean-up at sea. RWS provided funding for Sea Alarm's General Manager Hugo Nijkamp to design a multi-year

wildlife response preparedness program. This has included training on the European protocols, an exercises programme and a new wildlife response plan. Since then a formal Network has also been in development via the multi-year program and SON Response was established to play a facilitating role between government and non-governmental stakeholders. Significantly an oil spill in 2018 (Bow Jubail) in Rotterdam Harbour provided an opportunity to test current readiness levels with the oiling of 500 swans. Social media interest in this incident and self-mobilisation by the public caused human safety issues and reinforced the benefit of a professional, coordinated response. The Bow Jubail oiled wildlife response also benefited from the involvement of and support from Tier 3 (international) Responders from the European network (EUROWA) and the Global network (GOWRS) via Sea Alarm, highlighting the benefit of working to international standards and a tiered approach. As with Europe as a whole, there have been no legislative changes that have enshrined wildlife preparedness and response in The Netherlands. This has also meant that funding is still relatively limited compared to the California system, which has also affected the speed of change

Greatest barriers to effective response and future challenges

Across all interviewees common themes emerged globally regarding barriers to effective response and future challenges.

1. Funding: Ultimately good readiness costs money. For any preparedness system it is critical that sustained funding is secured to build and maintain response capability and know-how.
2. Political Challenges: More and more, oil spills are seen as just one of many potential disasters for governments and other stakeholders to prepare for. This presents a challenge of competing priorities that threaten and limit support and funding for oiled wildlife response preparedness, even though the risk of oil spills remains.
3. Frequency and types of incidents; In California the network is experiencing more inland oil spills, which tend to be smaller and more frequent. This creates challenges in terms of keeping a wider pool of personnel response ready for marine incidents. Worldwide, there has also been an increase in anthropogenic wildlife emergencies brought about through Climate Change. This has increased the demands and financial burden on wildlife rescue organisations. Where funding is available the resources and infrastructure are often specifically tied to wildlife threatened by oil spill incidents alone.
4. Loss of expertise through generation change: A common challenge across all stakeholders is the generation change underway in the oiled wildlife response community. The number of responders with the experience of 40, 30 or even 10 spills has reduced significantly. With this comes a risk of brain drain in the field of oiled wildlife response and highlights the importance of institutionalising knowledge and expertise and implementing effective succession planning.

CONCLUSION

The OWCN and some of its founding member organisations such as International Bird Rescue have certainly played an important role in the development of the field of oiled wildlife response. The OWCN has successfully demonstrated what is possible with funding, legislation, multi-stakeholder collaboration and a commitment to excellence. However, without any one of these elements its impact would be diminished. This can be seen in other parts of the world where huge progress has been made but often a missing ingredient remains.

The common thread through all interviews was people (and organisations) with a passion for caring for wild animals. Through their efforts – as well as major oiled wildlife incidents – government and industry have been encouraged to acknowledge and integrate oiled wildlife response, at least in some sectors and some parts of the world. Often it has also been key individuals within the government and industry that have helped to catalyse these change efforts.

While every spill is a local emergency, what was also clear from the interviews is the interconnectedness of the international oiled wildlife response community and how they have learned from, supported and collaborated with each other over the decades.

The next frontier is to create more consistency in terms of investment and standards across the globe and ensure that these systems are well-connected. In this way the knowledge, expertise and funding to care for threatened wildlife will endure for future generations. This speaks to the value of global initiatives such as the oil industry funded Global Oiled Wildlife Response System (Kelway et al., 2017). While society's energy consumption may be transitioning, threats to wildlife populations will remain. As such there is a need to continue to explore innovative ways to reach-out beyond national borders and work together across countries and stakeholders on current and future challenges that serve as barriers to effective oiled wildlife preparedness and response.

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