Director’s Message

As we look back on the year, the word “thankful” comes to mind. I think we are all thankful that there were no large (or even moderate) spills in California this past year. That being said, I am personally thankful that we, as a Network, aren’t using this quiet period to rest on our laurels – far from it. We are pushing the preparedness in this state to levels never before seen: expanding all facets of the wildlife response program, revising all training components, updating each animal care protocol, and adding to the equipment and supply reserves throughout the state.

We can also be thankful for the people of California who saw to it after the Exxon Valdez and the American Trader incidents to develop the concept of the Network and to make it the world’s model for an oiled wildlife response program. However, it is important not to cache our good fortune behind our State borders. As such, the OWCN has increasingly been involved in national and international efforts to organize and clarify the role of recovery and rehabilitation within the larger context of oil spill response. Several exciting new efforts are now underway – efforts I look forward to sharing with everyone soon.

Lastly, I am personally thankful for the amazing people I have the pleasure to work with as part of the OWCN. It is hard to imagine another system of more than 40 federal, state, regional, and non-governmental organizations that could co-exist so effectively for the betterment of wildlife. I want to thank each and every staff member and volunteer of the Network for their dedication, passion, and drive to support the OWCN’s mission of “best achievable capture and care.” I look forward to another thankful year in 2013!

— Mike Ziccardi

OWCN: Then and Now

As most of our OWCN personnel and partners are well aware, California has one of the most advanced oiled wildlife response frameworks to be found anywhere in the world. Nowhere else are there more than 12 facilities and over 2,000 trained individuals ready to immediately deploy to help oiled animals should a spill occur in marine waters. Additionally, no other program or organization is as fully integrated into the management structure of spill responses. While some see this as a mixed blessing (one that requires elaborate organizational charts and ample paperwork), becoming an established part of the “backbone” that makes up the response effort increases acceptance of wildlife activities by decision-makers, thereby allowing greater and more rapid support for needed operations.

This advanced structure did not appear in its current form immediately after establishing the OWCN in 1994. Early in its history, all of the OWCN’s efforts were focused on working with its initial 20 Member Organizations and OSPR to provide “best achievable care” to wildlife, including the construction and modification of facilities and the development of written protocols for rehabilitation. Once facilities were completed, and a volunteer base established, the inclusion of Processing within the OWCN framework made perfect sense – thus creating the Care & Processing Group in 2003.

In the past five years, the OWCN has further refined its role in spill readiness and response through a rapid expansion of functions that we have been asked to lead. In 2008, as a consequence of the Cosco Busan spill in the San Francisco Bay in 2007, the OWCN was charged by the State Legislature to lead a “proactive capture”
Drills

In July, the OWCN hosted its largest-ever full deployment drill, with more than 60 participants from 11 Member Organizations and agencies gathering at the San Francisco Bay Oiled Wildlife Care and Education Center (SFBOC) in Fairfield. The large number of “players” enabled complete activation of all elements of a response, from field recovery teams to cleaning and pre-release conditioning teams. During the drill we also tested a brand new change to the wildlife branch organizational structure: the addition of the Field Stabilization Group. Previously, field stabilization has been housed within the Care and Processing Group. This promotion of stabilization to a formal group will enable smoother coordination between the recovery, stabilization, and primary care elements of a response. The facility, supplies and equipment, and responders all proved in top shape during this rigorous test of our capacity to respond to a large oil spill emergency in the San Francisco Bay.

In addition to this drill, the OWCN has participated in more than 20 other oil spill drills and preparedness exercises. For example, in April, we collaborated with the Department of Fish and Wildlife (CDFW)–OSPR to drill the Marine Wildlife Veterinary Care and Research Center for an oil spill response involving sea otters. Each drill provides an opportunity to test our preparedness, refine our communications and activation process, and reach out to everyone involved in an oil spill response from our Network Members, to government agencies and industry.

Bird Protocol Revision

In 2012, the OWCN began a long-awaited revision of the Protocols for the Care of Oil-Affected Birds. This document serves as a guide to the policies and procedures for oiled bird care and rehabilitation in California. The last substantial written revision occurred in 2000, and research and clinical experience have guided many changes to our protocols since that time. The revised document will reflect the latest research in avian critical care nutrition, treatments to counteract the internal effects of oil exposure, and prophylactic medications to prevent secondary disease. We have expanded the document to include many techniques and procedures that have been developed and refined by rehabilitators over the past decade. These include new housing options and preventative wraps to prevent pressure lesions, a common secondary complication of captivity for seabirds.

The revision process began with a meeting of rehabilitators, veterinarians, and biologists to identify key areas of change in procedure and technique. The OWCN staff then incorporated this work into a fully re-written draft that covers general medical care and husbandry of oil-affected birds as well as detailed protocols and procedures for each step of rehabilitation from processing and intake to release. A committee made up of representatives of Network Member Organizations and
OWCN staff reviewed the document and met to discuss the changes. External reviewers from other national and international oil spill response organizations and from the UC Davis Wildlife Health Center will also contribute their expertise.

The Protocol is a living document that will continue to evolve as new research findings and clinical experience guide our efforts to provide the best achievable care to oil-affected wildlife.

**Web-based Responder Database**

The California Department of Fish and Wildlife has contracted with Samaritan Technologies to create a web-based volunteer database that will enable interested participants to build a profile and search for volunteer opportunities with CDFW. The Office of Spill Prevention and Response will utilize this database for spontaneous (or convergent) volunteers during an oil spill response, and has generously incorporated the OWCN into this project. Each OWCN pre-trained volunteer will have an online profile with access to updated contact information and the ability to view training records, and sign up for classes. Once fully developed, we will be able to utilize this system for scheduling volunteers during a spill response. This system is in the very early stages of development, but we are looking forward to a streamlined and automated system to maintain our response personnel training and scheduling.

**Annual Readiness Review**

Each year, in the Annual Readiness Review (formerly known as the “Annual Call for Equipment”) the OWCN reviews the equipment and supplies stocked for spill response at each Network Member Organization. This review serves as an opportunity to survey our spill response facilities and fund improvements to expand our animal care capabilities. This year, we funded a number of projects, including:

- Installed energy-efficient interior lighting, water softeners, and water heater and Wetland & Wildlife Care Center;
- A new fish thawing sink, updating of plumbing in the wash room, and installing new lighting in the waterfowl pens at the Los Angeles Oiled Bird Care and Education Center;
- Additional UV systems on pools at Pacific Wildlife Care; and
- Concrete walkways leading to the Small Pool Aviaries and concrete pads under, and rescaling of pools at the San Francisco Bay Oiled Wildlife Care and Education Center.
2012 Spills in California

The OWCN was activated for two small spills this past year. The Platform Houchin spill, which occurred on June 22, was a spill from an oil platform located 4 miles offshore in the Santa Barbara Channel. One on-water Recovery team was deployed on June 23, with no wildlife impacts observed. The Berth 73 event occurred in the San Pedro Marina. On December 6, one Recovery team was successful in recovering one dead gull, one dead loon, and one live Brandt’s cormorant.

Individual Oiled Birds

Each year there are a number of birds that become oiled by small patches of oil in the environment or natural oil seeps. A portion of the OWCN’s annual operating budget is specifically designated to support cleaning and rehabilitation of these birds by OWCN Member Organizations. Over the past decade, the number of individual oiled birds (IOBs) that are coming in to rehabilitation centers has been increasing, with a significant spike in 2008 (a year when 482 birds were recorded). The 2012 year had a record high number of IOBs, with a total of 546 recorded just between January and the end of December (Fig. 1).

When comparing the different IOB species that have been brought into rehabilitation centers since 2005, an increase in common murres, especially in 2012, is apparent (Fig. 2). In addition, there was a peak in oiled Western and Clark’s grebes in 2008, with a decrease in these species in recent years (Fig. 2). In 2012 there were a few notable individuals that were reported as IOBs, in particular a Scripp’s murrelet, a state threatened small seabird that breeds on the Channel Islands off southern California; a red-necked phalarope, which is a migratory bird that breeds in the Arctic regions of North America and Eurasia; and a red-throated loon, also a migratory bird that breeds mostly in Arctic regions.

Field Stabilization

With the acquisition and completed retrofit of the MASH (Mobile Avian Stabilization Hospital) in 2011, the OWCN is now ready to place an increased emphasis on Field Stabilization. The next step to launch this initiative was to adjust the organizational chart by promoting Field Stabilization from a Strike Team situated within the Care and Processing Group to its own Group led by a Field Stabilization Group Supervisor. OSPR was amenable to the organizational change and the new organizational chart debuted in August 2012. Since that time we have been working to develop detailed protocols and a full scale Field Stabilization training course for Member Organizations throughout the state. Basic First Aid training has already been successfully incorporated into Recovery Level 2 trainings.

By having trained Field Stabilization Staff deployed at Member Organization facilities and the MASH, in most situations, OWCN will be able to provide comprehensive supportive care within an hour of capture. This enhanced level of immediate treatment is expected to increase the chances of survival for oiled animals, similar to the beneficial results seen when trained Emergency Medical Technicians (EMTs) are available to respond to human emergencies. In addition, having appropriate facilities and a team of highly
trained field stabilization professionals will allow OWCN to adapt advances made in oiled bird care at Primary Care Facilities for use in field situations, thus improving animal care.

**Hazing Team Update**

Over the last year the OWCN hazing team has been active in preparation and training. One major goal has been to expand the number of persons who have had hazing training so that a larger group of personnel could be called upon in the event of a large spill. Training for new tiered certification has included:

- Safety information related specifically to hazing activities in the OWCN’s online 8-hr HAZWOPER refresher;
- A webinar introduction to general hazing techniques prepared by Winston Vickers. The webinar generated over 80 registrants and those who completed the associated online test were awarded Hazing Certification Level 1;
- A short session specifically for CDFW-OSPR personnel in the use of one type of pyrotechnic, whistler/screamer cartridges, conducted at the UC Research and Extension Station in Irvine;
- Level 2 trainings held in Irvine and Davis in 2012. Training included the handling and deployment of pyrotechnic devices as well as propane cannons. A Level 2 training in Arcata is planned for 2013, and a Level 3 training protocol is being developed with the assistance of CDFW firearms training officers;
- Cross-training between Recovery teams and Hazing teams for improved coordination; and
- An extensive trial of hazing techniques conducted on the Farallon Islands. This trial was partially funded by an OWCN grant and tested all of the hazing tools available to the team.
Competitive Research Grants

The OWCN’s Competitive Grant Program annually funds three types of projects: full proposals, small grant proposals, and mentorship projects. Full proposals are large projects with a budget of greater than $10,000 per year, and may be funded for as long as three years. Small grant proposals are typically pilot projects with a budget of $10,000 or less, and are funded for one year only. Mentorship projects are those brought to the OWCN core staff by a Member Organization, and are usually small projects that focus on an applied topic in wildlife rehabilitation.

The OWCN funded three full proposals and three small grant proposals for the 2012-2013 cycle. These projects were considered by our Scientific Advisory Committee to further our goals and advance our mission of best achievable care:

- Farallones gull hazing trials: Dan Grout and Nick Holmes, Island Conservation, UC Santa Cruz Long Marine Laboratory
- The inner otter: an interactive online reference for sea otter-related spill response, biology, and disease: Melissa Miller, Marine Wildlife Veterinary Care and Research Center, Office of Spill Prevention and Response, Santa Cruz, CA
- Post-release monitoring of little blue penguins (Eudyptula minor) following the C.V. Rena spill: Kerri Morgan, New Zealand Wildlife Health Centre, Massey University, Palmerston North, NZ
- Demography and distribution of stranded marine birds and mammals in Northern California: Dawn Goley and Mary Beth Pacewicz, Humboldt State University, Arcata, CA
- Pharmacokinetics of danofloxacin after single subcutaneous and intramuscular dose administration in California brown pelicans (Pelecanus occidentalis): Todd Schmitt, SeaWorld San Diego, CA
- Testing an experimental vaccine in a Japanese quail (Coturnix japonica) model of aspergillosis: Lisa Tell, Department of Medicine and Epidemiology, UC Davis School of Veterinary Medicine, Davis, CA

We look forward to seeing the results of these projects, and hope to see several of them presented at a future Oilapalooza conference.

For 2013, the OWCN encourages all interested researchers to apply with new and innovative ideas. Our call for research proposals is typically announced in March, with pre-proposals due May 3. The OWCN Scientific Advisory Committee reviews the pre-proposals and requests full proposals for those that meet OWCN goals. Full, small grant, and mentorship proposals are due July 26. Researchers are notified in late September, and funding can begin as soon as October.

In-House Research: 2012

Use of temperature-sensitive microchips to monitor body temperature

Shelley Smith, a veterinarian in the UC Davis School of Veterinary Medicine’s Master’s of Preventive Veterinary Medicine (MPVM) program, is investigating the use of temperature-sensitive microchips in birds to help us monitor body temperature during care.

Most of us are familiar with microchips used to identify our pets. They are small devices (a little bigger than a grain of rice) that are implanted under the skin and can “talk” to a reader when it is waved over the animal. Microchips can also contain a tiny thermometer and can report the temperature when the reader is passed over them. These have been used in sea otter research to evaluate the efficacy of thermoregulation after washing. Dr. Smith will be looking at how well these work at measuring core body temperature in birds. If effective, these would be much easier and less stressful on the birds than taking their temperature manually. Dr. Smith will be working closely with our partners at International Bird Rescue to fine-tune this method.

Small implanted microchips containing a thermometer can be used to obtain body temperature without having to handle the bird.
**Summary of post-release Western grebes**

In 2010 and 2011, the OWCN used a captive-tested surgical procedure to implant Western grebes with satellite transmitters to field test this technique as well as to gain more information on grebe winter site fidelity and migration. After releasing these study birds, satellite data showed that most remained within San Francisco Bay. Two complete grebe migrations were documented during this study, with one bird traveling from San Francisco Bay to Upper Klamath Lake in Oregon in July 2011 and returning to San Francisco Bay in November. Another bird traveled south to San Diego and then back to San Francisco Bay in December the second winter post-release (2011). This study is a first step for gaining information on migratory patterns that can be used to inform mitigation in coastal habitats, where spills occur. This study also enabled field testing of the surgical technique used to implant satellite transmitters for tracking grebes after rehabilitation from oil spills.

A pool of grebes preparing for their release back into the wild.

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**In-House Research: 2013**

- **The physical effects of chemically dispersed oil on wildlife:** Dispersants are assumed to diminish the impacts of oil to seabirds, by reducing exposure to hydrocarbons when birds dive through the water column, where the dissipated oil is located. However, little is known about the physical effects of the actual dispersants on the birds. The OWCN has undertaken a study that will examine the effects of dispersant and chemically dispersed oil to the feather structure, waterproofing, and behavior of common murres.

- **Keeping gavage fluids warm:** The OWCN has invested time in a small study to determine the best method of keeping gavage fluids warm in the field. Five different thermos models will be compared to determine which model best retains heat. Additionally, plastic hand warmers will be added to see whether they maintain or increase temperatures of fluids in the thermos. The most effective tool for keeping fluids warm will be used for future spills.

- **Tracking Western grebes:** In 2013 we will be working with collaborators at Swansea University (UK) to develop a minimal impact harness and external transmitter that will accurately track movements of Western grebes. The ultimate goal of this project is to develop a reliable technique for tracking this species following an oil spill in which this species has been impacted, while minimizing the adverse impacts of the harness and tracking device on the bird.

- **Fibrinogen:** In 2013, the OWCN plans to continue its investigation into the utility of fibrinogen as a diagnostic tool with a collaborative project at the Maryland Zoo in Baltimore. A previous OWCN post-release study of common murres suggested that high fibrinogen might be an indication that a bird was not ready for release. We are now looking for the most reliable and simple method for measuring fibrinogen in birds so that we can use it in further studies. We will be using captive African penguins (a species with a rich history of oil spill impacts in South Africa) at the Zoo to evaluate three different methods of measuring fibrinogen in birds.
K-12 Outreach

Over the past year, we have continued to receive letters from children eager to learn how they can help oiled wildlife. Due to this continued interest in spill response, the OWCN has increased efforts to expand our K-12 program, with a kids’ education portion on the OWCN website now being active. In this section, kids can investigate what happens to oiled wildlife during a spill, and discover what we do to help rehabilitate them. We also have games, puzzles, and experiments for them to explore. We look forward to continuing to improve this area on our website.

Once again the OWCN staff took our Mobile Avian Stabilization Hospital (MASH) to California’s State Scientist Day. This large event, set up outside the State capitol building, was attended by more than 3,000 school kids, primarily from the Sacramento area. This year we focused on teaching children about how oil harms wildlife and what care we provide in field stabilization. As always, the tour ended with the kids getting to touch real sea otter pelts; a new experience that is always the highlight of the OWCN visit.

This year, the OWCN staff also tried our hand at increasing in-classroom education. We were invited to several Davis area classrooms to help teach kids about oiled wildlife and how we clean them. After a quick presentation on how oil is harmful to wild animals, kids were able to participate in experiments designed to show the process of removing oil from feathers. As any good responder knows, proper personal protective equipment (PPE) is very important, so the kids were even able to suit up before they went out to wash their “oiled” feathers. With this success, our goals have now turned to taking what we have done in classroom presentations and turning it into a packet of information that can be provided to teachers throughout the country. This will allow children everywhere the opportunity to learn about oiled wildlife in their own classroom.

Online Training Series

In 2012, the OWCN Online Training Series saw an expansion. As usual, the five core webinars were available to OWCN volunteers, though this year they were accessible as recordings all year. As a way to encourage continued education in oiled wildlife response and to promote a sense of community for our affiliated members; we also included three special topic webinars. These three trainings were presented live, and made available later as recordings:

- OWCN Protocol Updates;
- Introduction to Avian Hazing; and
- Clinical Avian Anatomy.

We will hopefully continue to present special topic webinars in 2013 due to the very positive response we received about these webinars. Also in 2013, look for updated versions of our core webinar series to be rebroadcast live.

Website

If you haven’t already, please check out the updated version of our website at www.owcn.org. OWCN staff spent the summer restructuring and adding new material to the website. The new layout is designed to make for a more aesthetically appealing website which streamlines information, as well as promote the relationship between the OWCN and its Member Organizations. While it is always a work in progress, we are pleased to offer our network and the public a website that serves as both a portal to OWCN information and a centralized location for information on oiled wildlife.
Also, don’t forget that all volunteers and staff of OWCN Member Organizations have access to the member login portion of our website. Contact volunteer coordinator representatives from your organization to obtain login information.

Oilapalooza

Oilapalooza, the OWCN’s Annual Rehabilitation Conference, was held in Santa Cruz on October 27-28, 2012. This year’s conference was the best attended to date, with over 160 participants registering representing 25 Member Organizations.

Saturday was a full day of lectures held at the Hotel Paradox. This year, the program was broken into sections relating to Programs and Response, Birds, and Marine Mammals and Sea Turtles. The lectures covered such topics as international response, the tracking of individual oiled birds, ecosystem change, and rehabilitation-related research. The evening’s reception was also held at the Hotel Paradox. A highlight of the reception was the raffle of items donated by Member Organizations. Many thanks to all those organizations who brought items to share with other Network Members.

Sunday consisted of hands-on workshops held at the Marine Wildlife Veterinary Care and Research Center. This year there were some new labs added, including Coastal Bird ID, Field Stabilization and Oil Spill 101. All proved to be quite popular!

As always, the OWCN staff extends our sincere thanks to all who participated in this year’s conference!
program, requiring the training and equipping of responders throughout the State to rapidly hit the beach soon after spills occur. Under the initial leadership of Nils Warnock and now Kyra Mills-Parker and Nancy Anderson, the OWCN has established a multi-pronged training curriculum, developed supply caches in key response areas, and greatly expanded our equipment capabilities.

Most recently, the OWCN has further expanded wildlife response activities to embrace two new programs – wildlife deterrence (or hazing) and field stabilization. In 2010, we were asked by OSPR to undertake an effort similar to that of wildlife recovery for the Wildlife Hazing Group. Winston Vickers was brought on to lead this effort, and has been establishing an integrated training program coupled with infrastructure development. Concurrently, as the Recovery program expanded, it became clear that an increased effort focused on providing initial “first aid” to affected wildlife closer to the point of capture was just as critical to their survival as rapid collection. Thus, last year, Nancy Anderson was tasked with developing a cohesive Field Stabilization program, with its own protocols, training program, and equipment/supply stores.

The OWCN’s efforts into expansion of wildlife operations aren’t simply an effort to develop the most convoluted organizational chart available, but a gradual evolutionary process where the actions most needed to protect oil-affected wildlife have been evaluated, and a plan enacted to address those specific needs. Through continued outreach to organizations and individuals with this shared vision, as well as close involvement in the preparedness activities of oil “stakeholders” (e.g., agencies and industry), the OWCN, through its more than 40 Member Organizations and Affiliated Agencies, will continue to push this effort into the future.

### Important Dates in 2013

**All Year:** Access to recorded Webinar Series

**January 25:** Recovery Level 2 Training, Sacramento

**January 29-31:** 24-hr. HAZWOPER, Arcata

**February 19-21:** 24-hr. HAZWOPER, Fairfield

**March 26-28:** 24-hr. HAZWOPER, Monterey

**May 3:** Competitive Grants pre-proposal submission deadline

**June 1-30:** 8-hr. online HAZWOPER Refresher

**June 18-20:** 24-hr. HAZWOPER, Ventura

**July 26:** Competitive Grants full proposal and Mentorship Program submission deadline

**August TBA:** Recovery Level 2 Training, Fairfield

**September TBA:** Recovery Level 2 Training, Monterey

**October TBA:** Recovery Level 2 Training, San Diego

**October TBA:** Annual Rehabilitation Conference (Oilapalooza), San Diego

**November 1-30:** 8-hr. online HAZWOPER Refresher

* Field Stabilization and Hazing Trainings: TBA

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