Dear friend,

The programs and projects featured in this calendar are the results of hard work and dedication by some of the sharpest minds in wildlife health. None of it would be possible without the support, momentum and energy provided by partners like you. This calendar is our way of sharing what you’ve helped to accomplish, and expressing our gratitude for your critical role in that process. Thank you!

As you pin this calendar to your wall and read about our programs and projects one by one over the coming year, we hope you feel pride in what you have helped the Karen C. Drayer Wildlife Health Center achieve.

Special thanks to Phil and Karen Drayer for their deep passion and ongoing support for the work we do at the WHC.

With gratitude,
Mike Ziccardi and Kirsten Gilardi
Co-Directors
Karen C. Drayer Wildlife Health Center

GIVING IS EASY

Imagine if every time you turned a page on this calendar, you were directly supporting the Karen C. Drayer Wildlife Health Center’s work on that species. Our new website makes recurring monthly donations possible, and it doesn’t require you to lift a finger throughout the year. It is simple and secure, and it only takes a couple of clicks to set up today.

Whether you choose to give once or once a month, you will be contributing to some of the top wildlife research and training in the world. Your support is what makes the Karen C. Drayer Wildlife Health Center’s work possible. All donations are tax-deductible.

http://whc.gift

The Karen C. Drayer Wildlife Health Center team at its Annual Meeting in January
**2015 TIMELINE**

In the calendar that follows, we delve into some of the great work we’ve done over the past year. Here’s a glance at some of those successes and others that we couldn’t fit into the calendar.

The OWCN responds to the Refugio Oil Spill after a pipeline bursts and leaks thousands of gallons of oil into the ocean.

Governor Jerry Brown appoints the WHC’s Dr. David Bunn as the new Director of the Department of Conservation.

Dr. Joost Philippa joins Gorilla Doctors as its newest Regional Coordinator based in Rwanda.

The California Raptor Center debuts two new cages, including one that will house its resident golden eagle.

Karen C. Drayer staff and affiliated faculty members gather at UC Davis for an Annual Meeting (see above photo) to share project updates, collaborate and brainstorm.

The SeaDoc Society celebrates 15 years of marine wildlife and ecosystem health work at its annual Wine and Sea event on Orcas Island.

The USAID Emerging Pandemic Threats PREDICT Project enters its second phase, with a heightened focus on drivers for spillover of pathogens from wildlife to people.

WHC Co-Director Mike Ziccardi is named 2015 Outstanding UC Davis Alumnus and Co-Director Kirsten Gilardi receives the AAZV’s Emil Dolensek award.

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**CONNECT**

You don’t have to wait until this calendar hits your mailbox to find out what the Karen C. Drayer Wildlife Health Center is up to. We’re telling our stories online all year long in a number of ways, including our online magazine ([www.evotis.org](http://www.evotis.org)) and on social media. Here are some ways you can connect with us:

- **EVOTIS:** Subscribe to our free online magazine and newsletter at [www.evotis.org/subscribe](http://www.evotis.org/subscribe)
- **FACEBOOK:** Like us on Facebook at [facebook.com/WildlifeHealthCenter](http://facebook.com/WildlifeHealthCenter)
- **TWITTER:** Follow us on Twitter at [twitter.com/whcudavis](http://twitter.com/whcudavis)
- **WEB:** Read all about us at [www.wildlifehealthcenter.org](http://www.wildlifehealthcenter.org)

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**REVENUE**

2014–2015

- Federal Contracts & Grants
- State Contracts & Grants
- Private Contracts & Grants
- Endowments & Private Gifts
- Income & Service Accounts

**total:** $23,881,261
Coastal Ecosystems

When sea otters with bright yellow gums started turning up on beaches in the Monterey Bay, researchers took notice. Starting in 2007, 11 otters with similar signs were found dead. The cause? A class of natural toxins called microcystins produced by freshwater blue-green algae (or cyanobacteria). But how was it getting into the ocean and killing the otters?

Researchers closely affiliated with the Karen C. Drayer Wildlife Health Center did the scientific detective work that traced the toxin back to Pinto Lake in Watsonville, CA, which has experienced large toxic algal blooms in recent years. The discovery has led not only to proactive steps to protect the otters, but also the people and pets who use Pinto Lake recreationally. The community is now working to reduce agricultural runoff and begin treatments that will reduce the magnitude of these algal blooms.
The Karen C. Drayer Wildlife Health Center has been conducting critical research on the health of sea otters since its inception, mentoring dozens of WHC graduate students along the way. Your support will help the Center continue to focus on this keystone species for years to come.

http://whc.gift
In fall of 2013, scientists observed a golden eagle in Northern California that was suffering from extensive skin lesions over its entire body. The bird’s legs and mouth were severely affected, making it very difficult for her to eat, and loss of feathers left her vulnerable to hypothermia. The adult female was captured and brought to the California Raptor Center, where she underwent months of treatment and rehabilitation for a severe infestation of mites.

The type of mites that infested the golden eagle had never before been documented on raptors in North America. Thanks to a collaborative effort at UC Davis and beyond, she spread her six-foot wingspan and made a healthy return to the wild in 2014, equipped with a tracking device to monitor her movements for future study.
This success story is just one example of the California Raptor Center’s commitment to rehabilitating sick and injured birds of prey. Last year, donors came together and helped replace two of the Center’s largest enclosures for its education birds. With your support, the rehabilitation, education and research at the California Raptor Center can continue for years to come.

http://raptor.whc.gift
During the first five years of the US Agency for International Development (USAID) Emerging Pandemic Threats PREDICT Project, the Karen C. Drayer Wildlife Health Center-led consortium discovered more than 800 new viruses in wildlife from around the world – some of which could represent potential health threats to people. In the second phase, our goal is to understand how these viruses could spread from wildlife to people, both locally and globally.

Teams in more than 30 countries will be investigating what daily activities bring people into contact with wildlife and livestock to increase the risk of disease transmission among species. By understanding the biological and behavioral threats related to viral transmission, we can help prevent the spread of deadly zoonotic diseases like MERS, which has killed more than 500 people in the Middle East. The PREDICT team is initiating work in Ethiopia and Uganda to understand the MERS virus, with camels believed to be a source of the disease.
While PREDICT is fully funded through a cooperative agreement with USAID, PREDICT implementing partners like Gorilla Doctors and the HALI Project need support to conduct their general operations. Consider making a donation to PREDICT partners in One Health to ensure that advances made by our wildlife health programs continue.

http://hali.whc.gift
http://gorilla.whc.gift
When a pipeline in California ruptured and spilled tens of thousands of gallons of thick crude oil along the Santa Barbara coast in 2015, the Karen C. Drayer Wildlife Health Center's Oiled Wildlife Care Network immediately surged into action. Teams descend on Refugio State Beach and rescued more than 55 birds and 60 marine mammals, which were transferred to OWCN care facilities for emergency care. More than 75 staff and 100 volunteers from more than 20 of the OWCN’s member organizations were mobilized in the massive effort.

In addition to providing the best capture and care possible to the affected animals, the OWCN initiated research to better understand the well-being of oiled animals after release. Twelve oiled and rehabilitated brown pelicans and eight control pelicans were equipped with solar-powered satellite tracking devices, enabling the OWCN to monitor their post-rehabilitation survival, movement patterns and reproductive success.
The vast majority of oil spills throughout history have happened in marine waters, but the rise of fracking and inland oil exploration have changed the equation. There was more oil spilled from American railcars in 2013 – 1.1 million gallons – than in the previous 35 years combined, which is why the OWCN is expanding its readiness and response plans to cover wild animals affected by inland spills.

http://oil.whc.gift
Argentina’s wetlands cover one-quarter of the country and are under increasing pressure from agricultural expansion. The wetlands are home to more than 250 bird species, making them a destination for hunters from around the world. Hunting quotas are not strongly enforced, and lead ammunition, which is banned in many countries because of its toxicity, is used widely. Not only have these activities been shown to threaten wetlands and wildlife, but lead can also have severe health implications for the people who live there – especially children.

In 2015, the Karen C. Drayer Wildlife Health Center’s Latin America Program, which works to protect wetlands as well as key wildlife species such as southern right whales, penguins and albatross, expanded its Earth Guardians Network to 23 primary schools. This program, focused on educating the public about the importance of wetlands, builds support for local ecosystems through science and education, inspiring children and teachers to become wetlands ambassadors and waterbird guardians. This effort has already begun driving policy changes in the country.
The Latin America Program, which depends entirely upon the support of donors, tests children for lead through a program called the Tooth Fairy campaign. After children lose their baby teeth, students donate them for lead-level testing. Your contribution will help fund full dental examinations for children at risk, as well as equip schools with binoculars and bird guides needed for waterbird monitoring.

http://latinamerica.whc.gift
Gorilla Doctors is saving a species, one gorilla at a time. Since 2009, the Karen C. Drayer Wildlife Health Center and the non-profit Mountain Gorilla Veterinary Project have partnered to staff an international veterinary team that provides life-saving care to endangered wild mountain and Grauer’s gorillas in Rwanda, Uganda and the Democratic Republic of Congo.

In 2015, Gorilla Doctors veterinarians treated many injured and ill mountain and Grauer’s gorillas. Whether it was an infant gorilla caught in a snare or a whole family of gorillas suffering from a respiratory disease outbreak, Gorilla Doctors saved the lives of 18 gorillas and closely monitored the health of hundreds of others. Additionally, Gorilla Doctors helped our government partners care for young gorillas confiscated from poachers.

PHOTO BY: CHRISTOPHER WHITTIER
With only 880 mountain gorillas left in the world, your support is essential to help Gorilla Doctors provide life-saving veterinary care to these magnificent animals.

http://gorilla.whc.gift
Training the next generation of wildlife veterinarians is at the forefront of the Karen C. Drayer Wildlife Health Center’s mission. Our faculty and staff teach wildlife, population health and One Health to the students at the UC Davis School of Veterinary Medicine, and provide opportunities for graduate students to explore research topics related to animal health and conservation.

Our commitment to training is exemplified by the Phil and Karen Drayer Wildlife Health Center Fellowship Award. This annual program awards up to $5,000 per student to help them pursue wildlife-related projects and advance their education. This past year, projects focused on exploring a new virus in raccoons, better understanding a chronic disease of Channel Island foxes, examining an emerging disease in striped skunks and further defining viral disease susceptibility in marine mammals.
The Karen C. Drayer Wildlife Health Center is aiming to establish a unique free-ranging wildlife residency training program in partnership with state and federal agencies. Achieving this dream will depend on financial support from outside the university.

http://whc.gift
Lost Fishing Gear

Crab fishermen off the northern coast of California haul upwards of 15 million pounds of crab every year. Unfortunately, hundreds of crab pots are accidentally lost in the ocean due to storms and vessel traffic. This gear poses an entanglement and entrapment risk to marine wildlife.

In 2015, the Karen C. Drayer Wildlife Health Center’s California Lost Fishing Gear Recovery Project helped fishermen recover more than 665 crab pots in just a few weeks. This tremendous success paved the way for the Dungeness Crab Task Force – a group of representatives from local fisheries – to propose a permanent gear retrieval program.
While the ultimate goal is for lost fishing gear recovery to be fully financed and sustained by the fishery, the project currently depends on donor support for gear retrieval. Your donation would help support the project and encourage expansion to new ports in California, and potentially around the world.

http://LostGear.whc.gift
Zoos connect people with wildlife and inspire them to take conservation action – even to pursue veterinary careers focused on wildlife species. The Karen C. Drayer Wildlife Health Center has longstanding partnerships with the Sacramento Zoo and San Diego Zoo Global to provide advanced training to veterinary students and recent graduates. Through programs such as UC Davis’ Zoological Medicine residency, students have the opportunity to engage in clinical practice on a wide variety of animals.

The Grevy’s zebra is one species of particular focus for the Zoological Medicine program. There are fewer than 2,000 Grevy’s zebras remaining in the wild; WHC faculty and students work with a herd of five mares at the Sacramento Zoo and a breeding herd at the San Diego Zoo to support Grevy's conservation efforts in Kenya. Also, WHC staff serve as the Veterinary Advisor for the Association of Zoos and Aquariums’ Species Survival Plan (SSP) Program.
The Zoological Medicine Service’s Residency Program was the first such residency in the world, and is universally respected for its tenure as well as the scope of the opportunities offered to the resident. In the years ahead, the Karen C. Drayer Wildlife Health Center hopes to expand its zoological training program to include a post-graduate fellowship. Donor support will be key in making this vision a reality.

http://whc.gift
The Pacific Ocean has warmed dramatically this year due to an El Niño event as well as other climatic factors. The warmer waters have impacted prey availability for California sea lions and other marine mammals by driving sardines, anchovies and other potential food sources on California’s coast toward colder waters. The result, in part, has been a dramatic increase in California sea lion strandings, which has caused California’s marine mammal rehabilitation facilities to reach maximum capacity.

The One Health Institute’s Marine Ecosystem Health Diagnostic and Surveillance Laboratory receives and tests samples from these facilities to help understand the potential causes of such stranding events. The lab has detected known and new viruses in many samples collected from stranded animals, in part because these animals are underweight and in poor health, and therefore more susceptible to infections.
By donating to the Marine Ecosystem Health Diagnostic and Surveillance Laboratory, you can help us keep testing costs low for the non-profit organizations that make up the nation’s Marine Mammal Stranding Network. This will allow us to better support those facilities during morbidity and mortality events in the uncertain years ahead.

http://lab.whc.gift
Once one of the most common seabirds in the Salish Sea, tufted puffins have plummeted over the last 35 years from 23,000 to less than 3,000 birds. Possible causes include oil spills and other harmful contaminants, reduced prey, human disturbance and changing ocean conditions. But, thanks to the SeaDoc Society and its partners, recovery has begun!

The SeaDoc Society led a Scientific Status Review that resulted in tufted puffins being placed on the endangered species list in Washington State in 2015. A recovery plan is now being written to bring back these iconic birds, and SeaDoc will be a key player in that journey.
You can help protect puffins and other animals in the Salish Sea by making a one-time or monthly sustaining donation to the SeaDoc Society. Whether you live in the Pacific Northwest or not, the Salish Sea is a jewel worth preserving.

http://seadoc.wlc.gift
Highways and housing developments straddle the hills and valleys of Southern California, from Los Angeles down through Orange County and into Mexico. Such expansive development impacts native wildlife like the mountain lion, whose survival is dependent entirely on its ability to range widely and hunt across the landscape. Boxing mountain lions in with highways not only puts them in danger of being hit by cars, but it isolates them genetically, putting their populations at risk.

Karen C. Drayer Wildlife Health Center researchers are tracking the movement of mountain lions in Southern California and sampling them to understand their genetic diversity. Research published by the WHC in 2015 revealed that the genetic isolation is severe, and survival rates of the area’s mountain lions are troublingly low.
Several projects are underway in Southern California that will create crossing corridors and fences to protect mountain lions and other animals from vehicle strikes while also helping them range more widely. The Karen C. Drayer Wildlife Health Center is guiding design and location decisions for these structures based on our accumulated research and knowledge about mountain lion behavior and health. Your donations will help keep that research going for years to come.

http://whc.gift