



P.O. Box 492, Hoquiam, WA 98550  
[www.coastalraptors.com](http://www.coastalraptors.com)  
Conservation Through Research and Education

# COASTAL RAPTORS TIDEINGS

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**Coastal Raptors** is dedicated to providing research and education programs leading to better understanding and conservation of raptors in coastal environments. Active since 1995 and with non-profit 501(c)(3) status beginning in 2009, the **goals** are to:

- Conduct scientific research
- Provide education programs
- Train wildlife biologists
- Collaborate with experts in wildlife research and management

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Dear Friends of Coastal Raptors,

Greetings from the Washington coast! I hope you enjoy this annual installment of Coastal Raptors TIDEings. Established in 2009, this newsletter marks Coastal Raptors' 9th year as a tax-exempt, nonprofit organization. TIDEings provides an opportunity to highlight Coastal Raptors activities as the year draws to a close.

I turned 66 in November. My route to 66 has been good. As you'll discover when you read further, 2018 has been especially memorable. I truly enjoy my work with Coastal Raptors and have no plans to retire.

Thanks to those who have provided volunteer and/or financial support to Coastal Raptors. It takes your help to keep Coastal Raptors on track. If you have not made a financial contribution to Coastal Raptors in 2018, please consider doing so.

May you have a safe and joyous Holiday Season.



Dan Varland  
Executive Director  
Coastal Raptors  
Hoquiam, Washington

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# TRACKING TURKEY VULTURE MOVEMENTS

In 2012, Coastal Raptors began an avian scavenger study that included capturing and wing-tagging Turkey Vultures for individual identification. We collect blood and feather samples from the birds, sending the samples to labs for contaminants and disease testing. The wing tags allow us to avoid sampling the same birds more than once. They also allow us to learn about Turkey Vulture movement patterns.

We tagged 54 vultures between 2012 to 2016; thirty-six have been re-sighted at least once, primarily by people not involved in the research effort who report their observations online to the US Bird Banding Lab. These re-sightings, 188 in all, reveal that many of our tagged vultures are long-lived and site faithful, many returning in spring and summer to areas where they were tagged.

Most Turkey Vultures in Washington and Oregon are migratory; however Coastal Raptors has little information on wintering locations of our marked birds from resightings. Only five resightings have occurred in winter: one on the Washington coast in Tokeland (a non-migrant), one near Dallas, Oregon, two in central California near Sacramento, and, last but not least, one about 80 miles northeast of Guadalajara, Mexico (photo above).

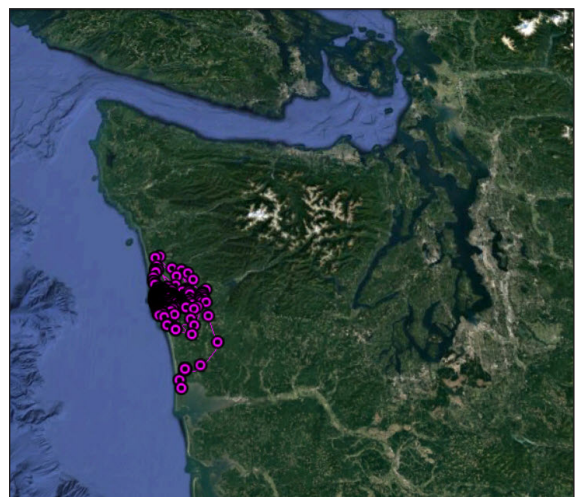


*Turkey Vulture perched in a pine in Mexico. Photo by Juan Cruzado Cortez. Sombrero added by Tom Rowley!*

Last June Coastal Raptors and the Pennsylvania-based Hawk Mountain Sanctuary Association initiated collaborative research to more accurately determine site fidelity and migratory patterns of Turkey Vultures using solar-powered GPS satellite transmitters. Hawk Mountain began this research in 2003 and has since deployed satellite-transmitters on 68 Turkey Vultures in Pennsylvania, Saskatchewan, California, Arizona, Venezuela, and now Washington. Our collaboration provides a first opportunity to monitor year-round movements of Turkey Vultures captured on the Washington coast.

For this effort, we captured four Turkey Vultures and fitted them with wing-tags and back-pack mounted transmitters. Two transmitters were purchased by Hawk Mountain and two by Coastal Raptors. Hawk Mountain's Jean-Francois (JF) Therrien and Zoey Greenberg joined the trapping effort; JF applied the transmitters. Assisting with the trapping effort were Coastal Raptors volunteers Sandra Miller, Glenn Marquardt, Susan Burchardt, Tom Rowley, Dale Larson, Virginia Molenaar, and Pam McCauley. The four vultures were given names: Airy, Coy, Grayland and Artful Dodger.

## Turkey Vulture "Airy"



Airy flew north to Quinault Indian Reservation lands after release. On August 5, we stopped receiving signals from Airy's transmitter. Our last transmission came from just outside the town of Tahola. Glenn Marquardt and I traveled to the site where we found elk carcass remains and a dead vulture nearby. A Quinault representative accompanying us to the site stated, "They shoot vultures around here". While we concluded the dead vulture was not Airy, it's possible our bird met a similar fate. Airy photos by Virginia Molenaar.





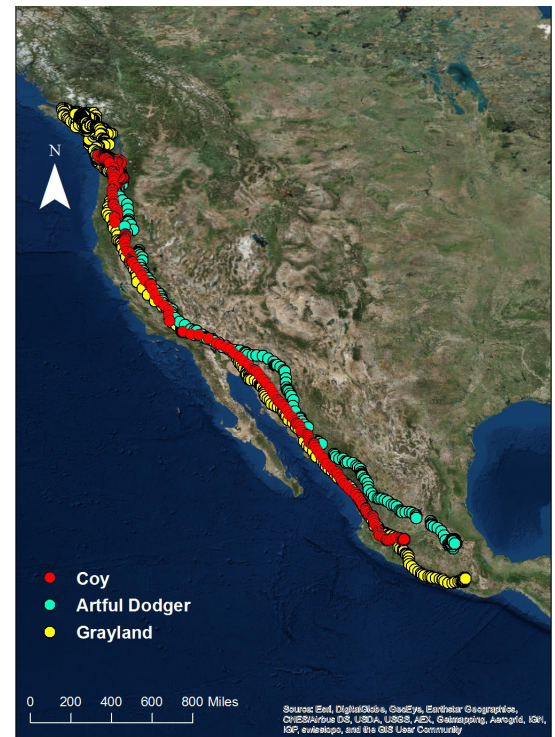
L to R: Sandra Miller, Susan Burchardt, Dan Varland and JF Therrien with “Coy”. In the days following capture, Coy flew south to the Columbia River and beyond. After several weeks, Coy flew back to western Washington and spent the rest of the summer there.



JF Therrien with “Grayland”. Grayland flew north to Vancouver Island for the summer.



Zoey Greenberg with “Artful Dodger”, who summered in western Washington within 35 miles of the capture location.



Map by Zoey Greenberg.

By late November Artful Dodger, Coy and Grayland had migrated to south-central Mexico, a distance of more than 2,500 miles (see map above). While their migrations did not begin on the same day, and they did not travel together, they followed remarkably similar paths. You can follow their movements and the movements of other Turkey Vultures in the Hawk Mountain Sanctuary Association study online at the website Movebank. Instructions for using Movebank are available on the Coastal Raptors website at <http://coastalraptors.com/Research/TurkeyVultureTracking.aspx>

Turkey Vulture	Date Initiating Southward Migration	Date Reaching the US/Mexico Border
Artful Dodger	September 6	September 25
Coy	September 25	October 8
Grayland	September 20	October 10

Date	Presentations by Dan Varland	Organization, Location
Feb 22	A Bird in the Hand is Worth Two on the Beach	East Side Audubon, Kirkland, WA
March 28	Get to Know the Raptors	The Trilogy, Redmond, WA
April 28	Coastal Raptors	Board of Directors and Staff Members, The Peregrine Fund, Long Beach, WA
April 29	A Bird in the Hand is Worth Two on the Beach	Grays Harbor Shorebird Festival, Hoquiam, WA
May 19	Mercury Contamination in Peregrine Falcons ( <i>Falco peregrinus</i> ) in Coastal Washington, 2001-2016	Tianjin, China
May 23	Get to Know the Raptors	After school program for kids, Saron Lutheran Church, Hoquiam, WA
Nov 12	Techniques for Handling, Marking, and Blood Sampling Raptors After Capture: A Bird in the Hand is Worth Two in the Bush	Workshop, Raptor Research Foundation 2018 Conference, Kruger National Park, South Africa
Nov 12	Establishing a Quality Control System for Raptor Capture and Marking - Review of the US and Canada Permitting Systems	Workshop, Raptor Research Foundation 2018 Conference, Kruger National Park, South Africa

## Nankai University, Tianjin, China

In May, I gave a presentation on mercury contamination in coastal Peregrine Falcons in China at *The 4th International Conference on Environmental Pollution and Health*. The conference was held at Nankai University in the coastal city of Tianjin. I participated at the invitation of Dr. Da Chen, a toxicologist at Jinan University in China. My expenses were paid by the Chinese government.

For more on the trip to China and the collaboration with Da Chen, go to the Education section at the Coastal Raptors website: <http://coastalraptors.com/education/20180519.aspx>.



Title slide from the presentation. This research, with Joe Barnes as lead author, is scheduled for publication in *The Wilson Journal of Ornithology* in 2019.





# Conference in Kruger National Park

In November I attended the Raptor Research Foundation (RRF) annual conference which was held in Kruger National Park, South Africa. More than 275 people attended from 36 countries, participating in oral presentations, poster presentations, field trips and workshops. The conference was a huge success! A highlight for me was receiving RRF's first ever "Exceptional Service Award" for my volunteer work with the organization. As an RRF member for nearly 40 years, my volunteer service has included publication editing, workshop teaching and facilitating the annual conferences. As chair of the conference committee in 2018, I worked with many people to plan the conference. First and foremost was Andre Botha, special projects manager for South Africa's Endangered Wildlife Trust and chair the local committee.



Andre Botha with Dan.



Dan receiving the Exceptional Service Award. The Davey Crockett outfit is another story!

**Conference Logo.** Seattle-based wildlife ecologist and natural science illustrator Jack DeLap designed the conference logo based on a Lappet-faced Vulture photograph taken by Andre Botha. The Lappet-Faced Vulture is one seven vulture species found in Kruger National Park. Weighing up to 20 pounds and standing more than 3 feet tall, this species is dominant at feeding sites. All seven vulture species of Kruger National Park are classified as Endangered or Critically Endangered, according to Red Data listing criteria. In Africa, vulture parts are consumed by many under the mistaken belief that they improve intelligence or have medicinal value. Vultures are also poisoned by poachers who see them as threats to poaching operations when they circle above poached rhinoceros and elephant carcasses, advertising the location of illegal poaching activities. The logo shines the spotlight on vultures, critical yet vulnerable members of Africa's ecological communities.

**Workshops.** I led a section of the workshop *Global Review of Raptor Trapping, Banding, Tagging and Tracking* which included my presentation on the US and Canadian bird banding programs. I also co-taught *Techniques for Handling, Marking and Blood Sampling Raptors After Capture* with John Smallwood, professor at Montclair State University in New Jersey, and Petra Sumasgutner, researcher at the FitzPatrick Institute, University of Cape Town, South Africa.



*Dictionary.com* defines *Pub Crawl* as “to have drinks at one bar after another”. Here, *Pub Crawl* aptly describes the slow process of publishing Coastal Raptors’ research findings in the scientific literature. It is common for long-term monitoring efforts such as ours to employ years of data and involve multiple of co-authors. This process takes time, for sure!

Two peer-reviewed research papers were published in 2018 (table below).

All Coastal Raptors publications, including past annual newsletters, are available on the Coastal Raptors website at: <http://coastalraptors.com/Research/Publications.aspx>



Title	Journal	Co-authors	Status
Scavenging as a Food-Acquisition Strategy by Peregrine Falcons	The Journal of Raptor Research	Dan Varland, Joe Buchanan, Tracy Fleming, Mary Kay Kenney and Cheryl Vanier	Published, 2018 Volume 52: pp. 291-308
Mercury and Lead Exposure in Avian Scavengers from the Pacific Northwest Indicate Potential Risks for California Condor Reintroduction Efforts	Environmental Pollution	Garth Herring, Collin Eagles-Smith, and Dan Varland	Published, 2018 Volume 243: pp. 610-619.

## SCAVENGING AS A FOOD-ACQUISITION STRATEGY BY PEREGRINE FALCONS

By Dan Varland, Joe Buchanan, Tracy Fleming, Mary Kay Kenney and Cheryl Vanier

**Summary.** Although best known for capturing live prey, five of the six falcon species in the United States or Canada are known to occasionally scavenge carrion. During 1,109 surveys on coastal sand beaches in Washington between 1983 and 2015, we observed hunting and feeding by migrating or overwintering Peregrine Falcons. Peregrine Falcons have long been known for their graceful and powerful hunting behavior as they chase their prey, which is almost entirely comprised of birds, many of which are captured in-air. It was therefore somewhat surprising that we observed scavenging carrion on 49 occasions. Seabirds and waterbirds were the most common food items consumed as carrion (44 of 49 items; 90%), whereas prey species they captured or targeted were most often sandpipers or other small birds. Although peregrines captured their own prey far more often than they scavenged, they scavenged larger items than those they captured, sometimes returning to the same item multiple times. We observed 21 color-banded falcons scavenging, ranging in age from less than a year old to four. A suite of environmental conditions, including cold temperate marine waters and an abundant supply of birds that perish at-sea before washing ashore, appear to facilitate the scavenging behavior.



*First-year female Peregrine Falcon scavenging a Brown Pelican carcass. The pelican’s bill extends to the left below the falcon. Dan Varland photo.*



# GYRFALCON



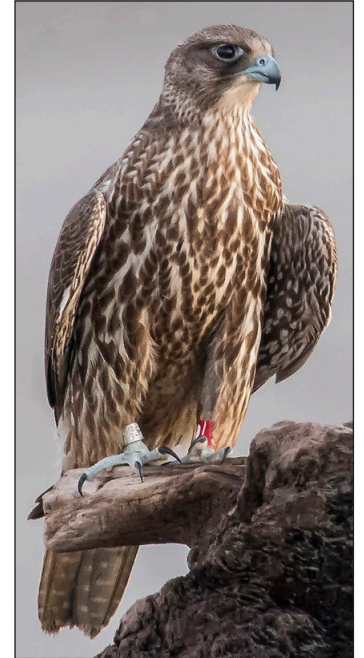
Tom Rowley.



Tom Rowley.



Tim Boyer.



Louis Champan.

Coastal Raptors captured the female Gyr Falcon featured here during a survey at Ocean Shores on February 12. Gyr Falcons nest in the Arctic. A few migrate to the northern US for the winter. This gyr was just the 5th one Coastal Raptors has captured, banded and blood sampled during 23 years of surveys. On March 11, she was sighted and photographed by Louis Champan on the Long Beach Peninsula, 30 miles south of her capture location.

Coastal Raptors provided a blood sample from the Gyr Falcon to the University of Washington's Burke Museum for use by DNA researchers. According to Genetic Resources Manager Sharon Birks, the Burke holds more than 60,000 tissue samples from birds around the world; ours was the first sample from a Gyr Falcon!

## Please Help Provide Financial Support to Coastal Raptors



Tom Rowley photo.

Gyr Falcon.

Support from individual donors like you is important to **Coastal Raptors**. Please help us move forward by making a tax-deductable contribution toward our operating expenses.

It takes quite a lot to run **Coastal Raptors** (\$15,000 annually). Listed below are examples of our annual operating expenses.

Vehicle: \$3,000 - \$3,500

Conferences: \$1,000 - \$2,000

Publication Fees: \$500 - \$2,000

Data entry and analyses: \$2,000

Satellite tracking data downloads: \$1,200

Office Supplies: \$1,000

Please Consider a Donation for this year or next if you have not already (see page 8 for a list of 2018 donors). Your Contribution is Tax Deductible. You may donate by check (payable to Coastal Raptors; Send to PO Box 492, Hoquiam, WA 98550) or online at [www.coastalraptors.com](http://www.coastalraptors.com). THANKS!

**Individuals:** Jerry and Norma Abma, Steve and Brenda Adams, Sharon Ann Alger, Chris Altwegg, Julia Bent, Jack Bettesworth, Brad and Julie Bitar, Gale Borde, Cecelia Boulais, Jerry/Clarice Broadus/Clark, Jeannette and Al Bruun, Tim and Martha Cambridge, Dr. David Chuljian, John/Julie Connor/Cohn, Dorothy Davis, Kate Davis, Will and Betsy Dixon, Barbara Dolan, Greg and Becky Durr, Terry and Rosa Beth Gibson, Bruce and Evelyn Haak, Rod/Joan Hanke/Torfin, Jim Harper, Roland and Betsy Hayes, Patrick and Janet Hearing, Chuck Henny, Rick and Karen Herreid, Scott/Sue Horton/Keilman, Dave Hunt, Joe Jauquet, Stan and Bonnie Johannes, Mary Lou Jones, Mary Kay and David Kenney, Lloyd and Julie Kiff, Erv and Janet Klaas, Dale and Ingrid Larson, Carrie and John Larson, Melissa and Cory Loebl, John and Andrea Mann, Glenn Marquardt, Virginia Martin, Bob and Emily Meier, Sandra Miller, Dan and Elise Miller, Nicholas, Annette & Hoki Moir, Libby Mojica, Dianna Moore, Rene and Ann Morris, Sandie Mullikin, Dave and Connie Murnen, Karl Nelson, Ken and Penny Niles, John and Lynn Ogren, Linda/Arthur Orgel/Grunbaum, Johnny and Yvonne Palka, Shelley Parker, Del and Donna Pelan, Robert/Gay Plotnick/Jensen, AAZK, Puget Sound Chapter, Bill and Mary Richardson, Tom and Nancy Rowley, Ellen Running, Leif/Michelle Running/Alexander, Gary and Penny Shackelford, Jerry and Gean Smith, Victoria Natural History Society, Suzanne Staples, Mick Thompson, Glen and Sharon Thompson, Suzanne and Marc Tomlinson, Bryan and Rosie Toney, Seppo and Pirjo Tuominen, Andy and Cheryl Varland, Charlie and Ariel Varland, Rich Vroman, Mike and Jodi Walker, Nadine and Mark Wallace, Gary Weiman, Emily White, Alice Wilhyde, Chrissy Williams, Ron Ydenberg, Mary Zarembo

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**2018 Donations Were Made in Memory of:** Wayne Kline, Wayne McCleskey, Sergej Postupalsky, and Mark Wilhyde.

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Louis Chapman photo.

Gyrfalcon.