

PRESIDENT'S MESSAGE

WELCOME TO ST. LOUIS! ON BEHALF OF THE NWRA BOARD OF DIRECTORS AND STAFF, WE ARE THRILLED THAT YOU ARE JOINING US FOR OUR 37TH NATIONAL SYMPOSIUM DEDICATED TO WILDLIFE REHABILITATION, MEDICINE, AND EDUCATION.

IT IS THANKS TO THE WILDLIFE RESCUE CENTER (CELEBRATING THEIR 40TH YEAR) THAT SYMPOSIUM 2019 IS A REALITY! I FIND THE SYMPOSIUM 2019 THEME - ACT LOCAL: FOSTERING COMMUNITY CONNECTIONS FOR WILDLIFE - TO BE PARTICULARLY MEANINGFUL. FOR DECADES, WILDLIFE REHABILITATORS AND EDUCATORS HAVE HAD A POSITIVE IMPACT ON THEIR LOCAL COMMUNITIES BY PROVIDING VALUABLE RESOURCES TO HELP INJURED AND ORPHANED WILDLIFE, AND TO EDUCATE THE PUBLIC.

FOR THE FIRST TIME, NWRA WILL BE OFFERING A PLenary SESSION WITH THE THEME OF ANIMAL WELFARE. AS OUR COMMUNITY OF PROFESSIONALS CONTINUES TO GROW, IT IS ESSENTIAL THAT WE FOCUS NOT ONLY ON IMPROVING STANDARDS OF CARE, BUT ALSO ON THE WELFARE OF THE ANIMALS ADMITTED FOR CARE.

AS WITH EVERY NWRA SYMPOSIUM, THE PROGRAM HAS BEEN DESIGNED BY WILDLIFE PROFESSIONALS FOR WILDLIFE PROFESSIONALS. WE ARE THRILLED TO HAVE MORE THAN 80 SPEAKERS GENEROUSLY GIVING THEIR TIME TO TEACH ALL OF US THIS WEEK AND TO HELP US DEVELOP NEW SKILLS AND LEARN NEW AND IMPROVED METHODS OF CARE.

A MEETING OF THIS SIZE DOES NOT HAPPEN ON ITS OWN - THE NWRA BOARD OF DIRECTORS IS EXTREMELY GRATEFUL TO THE NWRA STAFF, PROGRAM COMMITTEE, HOST COMMITTEE, AND TO THE SYMPOSIUM SPONSORS, FOR MAKING SYMPOSIUM 2019 A REALITY.

PLEASE MAKE SURE THAT YOU TAKE ADVANTAGE OF ALL THE NETWORKING OPPORTUNITIES AVAILABLE THROUGHOUT THE WEEK - FROM THE ICEBREAKER TO THE POSTER SESSION PIZZA PARTY - THERE IS PLENTY OF TIME TO VISIT WITH OLD FRIENDS AND TO MAKE NEW ONES! AT SYMPOSIUM 2019, BE SURE TO TAKE ADVANTAGE OF EVERYTHING THAT THE PROGRAM HAS TO OFFER AND ENJOY ST. LOUIS!



SINCERELY,

Michele

MICHELE GOODMAN, VMD, CWT

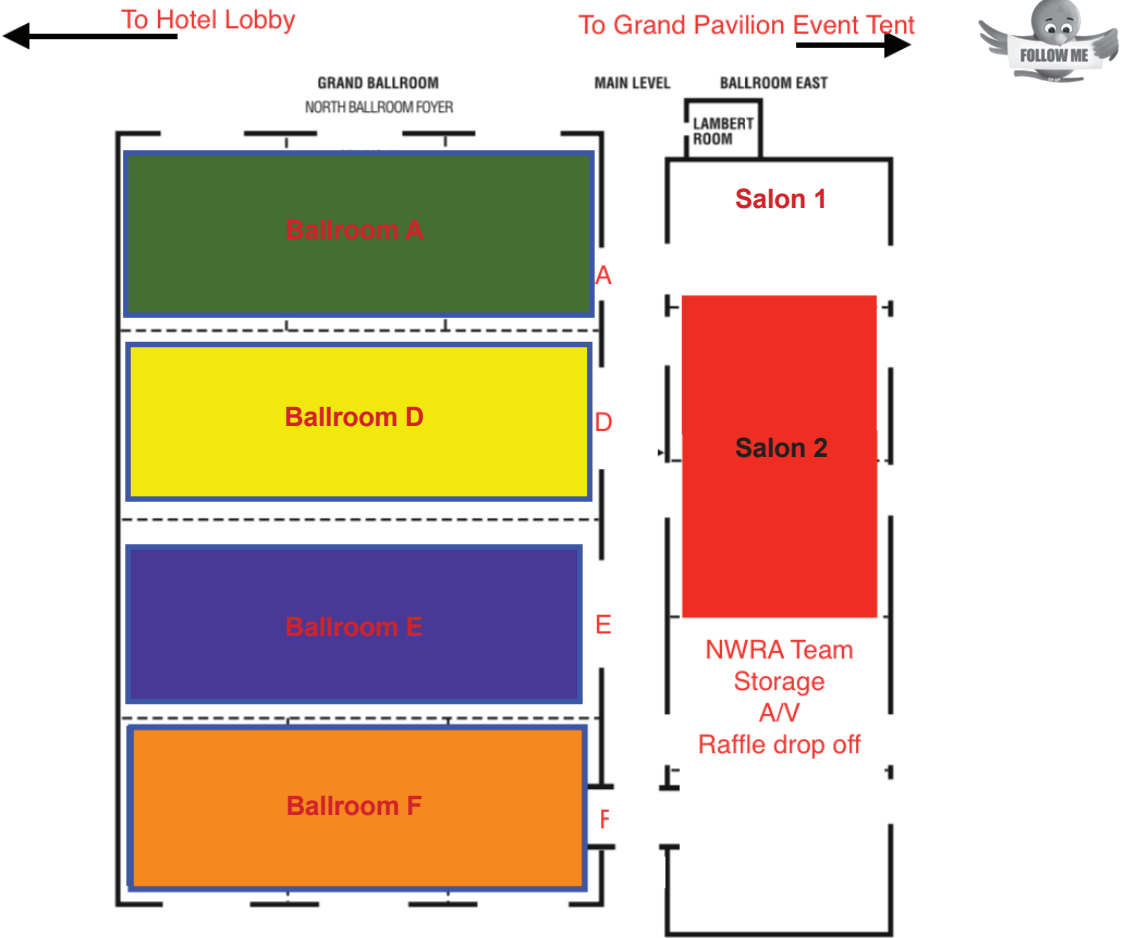
Navigating the Symposium

New to the Symposium? Here are a few tips to help you find your way around.




1. How to use this Program Book
- daily schedule grids ('the day at a glance') are on the following pages
 - abstracts for all seminars, workshops, and sessions are listed in the order presentations occur, starting on page 24
 - pages 20-23 provide additional information on the week's events
 - page 14 lists the Exhibitors—please visit their tables often!
2. Attending presentations
- all lectures are open to registered attendees—but you MUST wear your nametag for entry
 - there are five minutes between lectures to move from room to room
 - please silence cell phones and pagers while attending sessions
 - recording or photographing presentations is strictly prohibited
 - workshops are limited in size and require preregistration (more details on page 20)
 - be courteous to speakers and avoid going in and out of lectures once a talk has begun; if you need to leave a lecture before it ends, please do so as quietly as possible.

Activity Map

With the exception of the Field Trips and Ice Breaker, all NWRA symposium activities are taking place in the rooms depicted on the map below.



Tuesday, 5 March 2019

Concurrents	Seminar	Seminar	IWRC	Field Trips	
Room	Ballroom A	Ballroom D	Salon 2	main entrance/lobby	
7:30-8:00	Wound Care & Bandaging Seminar Shary Siksay, VMD	Advanced Training Seminar Gail Buhl, Melissa Moore, Jackie Kozlowski	IWRC Basic Wildlife Rehabilitation	Wildlife Rescue Center Field Trip A	St. Louis Zoo Field Trip
8:00-9:00					
9:00-10:00					
10:00-11:00					
11:00-12:00					
12:00-1:00	Lunch			Wildlife Rescue Center Field Trip B	St. Louis Zoo Field Trip
1:00-2:00	Wound Care (cont'd) Limited Enrollment	Limited Enrollment	IWRC Basic Wildlife Rehabilitation (cont'd) Limited Enrollment		
2:00-2:30					
2:30-3:00					
3:00-3:45					
3:45-4:00					
4:00-5:00				Arch Add-on Trip	
5:00-5:30					
5:30-6:00					
6:00-7:00					
7:00-8:00					
8:00-9:00					Ice Breaker Mississippi River Boat Cruise

Please stop by the NWRA Sales table to:


- ✦ Purchase raffle tickets and check the list of daily winners!
- ✦ Pick up your pre-ordered conference t-shirts
- ✦ Say hello to the Central Office staff!



Room	NWRA Sales	Symposium Registration	Exhibits
	Grand Ball Room Foyer		
Monday	Limited: see note below	4:00pm to 7:00pm	Closed
Tuesday	Limited: see note below	12:00pm to 3:00pm	Closed
Wednesday	7:30am to 6:00pm	7:00am to 4:00pm	7:30am to 7:00pm
Thursday	7:30am to 6:00pm	7:00am to 1:00pm	7:30am to 7:00pm
Friday	7:30am to 3:00pm	7:00am to 1:00pm	7:30am to 4:00pm
Saturday	7:00am to 1:00pm	7:00am to 10:00am	Closed

Note: NWRA Sales Table are not officially open until Wednesday; Pre-ordered T-Shirts are available on Monday and Tuesday in the Registration area.

Wednesday, 6 March 2019				
Room	Grand Ballroom			
8:00-8:50	Membership Meeting <i>Please silence your phones during presentations!</i>			
8:50-9:05	APLIC			
9:05-9:20	Animal Pro			
9:20-9:30	President’s Welcome , Michele Goodman, VMD			
9:30-9:45	Host Committee Welcome & Introduction			
10:00-10:45	KEYNOTE — Sharon Deem, DVM, PhD, Dipl ACZM			
	Setting Limits			
11:00-11:30	Chronic Case Management: When to Call it Quits Sarah Reich, DVM			
11:30-12:30	Drowning in Empathy: Fighting Compassion Fatigue by Building Resiliency Samantha Sander, DVM			
12:30-1:30	LUNCH			
	Animal Welfare Plenary			
1:30-2:30	Animal Welfare: Perspectives from a Human Primate Mark Mitchell, DVM, MS, PhD, Dipl ECZM			
2:30-3:00	Animal Welfare Consideration in Wildlife Rehabilitation Practices Jennifer Convy			
3:00-3:30	Animal Welfare: Best Practices in Accepting Non-releasable Wildlife for Ambassador Programs Gail Buhl			
3:45-5:30	USFWS Roundtable			
5:30-7:00	DINNER - Food Truck Night: Grand Pavilion Event Tent			
5:30-6:15	Veterinary Community Meeting: Salon I			
Concurrents	In-House Bloodwork	Avian Veterinary Topics	Workshop Lectures	Disaster Preparedness
Room	Ballroom A	Ballroom D	Ballroom E	Ballroom F
7:00-7:30	Using In-House Bloodwork to Guide Case Management Nicki Rosenhagen, DVM	Mgmt of the Post-surgical Avian Patient Sarah Reich, DVM	Basic Diagnostics Sherri Cox, DVM	Disaster Preparedness & Evacuation Emily Davenport & Elizabeth Chouinard
7:30-8:00		Avian Wildlife Toxicosis Thomas Tully, DVM		
8:00-9:00		Bird’s Eye View: Basic Intro into Avian Ophthalmology Allison Daughterty, DVM	Basic Parasitology Sarah Reich, DVM & Samantha Sander, DVM	

Thursday, 7 March 2019					
Concurrents	Workshop	Workshop	Volunteers	Reuniting	
Room	Salon 2	Ballroom A	Ballroom D	Ballroom E	
7:30-8:00	Basic Diagnostics Workshop - A Sherri Cox, DVM	Avian Imping Techniques Workshop A Jeff Meshach			
8:00-8:30			Volunteer Management: Proven Ways Jill Argall & Jenna Cord	Reuniting & Wild-fostering Birds Anne Miller	
8:30-9:00					
9:00-9:30	Limited Enrollment Must attend lecture Wednesday evening	Limited Enrollment	Recognition & Retention of Volunteers & Interns Jennifer Baxla	Mother Knows Best: Reuniting Mammals Laura Simon & John Griffin	
9:30-10:00	BREAK	BREAK			
10:00-10:30	Basic Diagnostics Workshop - B Sherri Cox, DVM	Avian Imping Techniques Workshop B Jeff Meshach	Working with Volunteers of All Abilities Jenna Cord & Jill Argall	Organizing Your Program to Make Reuniting Your Priority Laura Simon & Anne Miller	
10:30-11:00			 Limited Enrollment	Getting the Most out of Eagle Scouts & Gold Award Service Projects Roger Holloway	Technology to the Rescue: Essential Tools for Successful Reuniting John Griffin, Laura Simon & Anne Miller
11:00-11:30				Online Training: Improving Staff & Volunteer Knowledge Jacqueline Sandberg	
11:30-12:00	Limited Enrollment Must attend lecture Wednesday evening				
12:00-1:00	LUNCH				
Concurrents	Workshop	Reptiles	Post-release	Administration	
Room	Salon 2	Ballroom D	Ballroom E	Ballroom F	
1:00-1:30	Basic Parasitology Workshop - A Sarah Reich, DVM & Samantha Sander, DVM	Snake Care 101 Heather Freeman	Innovations in Bird Banding, Research & More! Halley Buckanoff & Renee Schott, DVM	Building an Ethical, Professional & Sustainable Organization Yvonne Wallace Blane & Jean Lord, PhD	
1:30-2:00					
2:00-2:30		Limited Enrollment Must attend lecture Wednesday evening	Turtle Shell Repair: Let's Get Crackin' Julia Becker, DVM	Post-release Monitoring & Its Potential Effects Gail Kratz	Starting from Scratch, Sorta Hilary DeVries
2:30-3:00	Releases& Considerations for Post-release Survival Lisa Fosco			Becoming a Media Ambassador Amanda Nicholson	
3:00-3:30	BREAK				
3:30-4:00	Basic Parasitology Workshop - B Sarah Reich, DVM & Samantha Sander, DVM	The Approach to the Head Trauma Turtle Leslie Reed, DVM	Post-release Monitoring of Oiled Wildlife: Novel Techniques Workshop Lecture Kyra Mills	From Hobby to Profession: Changing the Way the World Views Rehabilitation Joshua Saranpaa	
4:00-4:30					
4:30-5:00		Limited Enrollment Must attend lecture Wednesday evening	Turtle Workshop Lecture Mark Mitchell, DVM, PhD	Post-release Survival of Oiled & Non-oiled Aquatic Birds Rebecca Duerr, DVM, PhD	Pre-emptive Media Reduced Influx of Orphaned Owls Thomas deMaar, DVM
5:00-5:30	Rehabilitating in Retirement: a Perfect Match Pamela & William Lefferts				
5:30-7:00	Poster Session & Pizza Party Dinner--Grand Pavilion Event Tent				
Concurrents	Veterinary Perspectives Panel	Disease	Avian	Ambassador Roundtable	
Room	Ballroom A	Ballroom D	Ballroom E	Ballroom F	
7:00-7:30	Veterinary Perspectives on the Management of Selected Infectious Diseases Samantha Sander, DVM; Sarah Reich, DVM; Erica Miller, DVM; Nicki Rosenhagen, DVM; Renee Schott, DVM	West Nile Virus: A Very Difficult Definitive Diagnosis David Scott, DVM	Can You Outsmart the Corvid in Your Care? Elaine Friedman	Selection of Education Ambassadors Roundtable Jackie Kozlowski, Gail Buhl, Melissa Moore, & Debbie Sykes	
7:30-8:00		Mange in Foxes: Following the Evolution of an Epizootic Lynn Miller, PhD			
8:00-8:30		A New Approach for Treating Avian Botulism Marie Travers & January Bill	Raising Orphaned Wood Ducks Judy Neiman & Adele Moore		
8:30-9:00			The Use of Tuning Forks in Physical Therapy in Raptors David Scott, DVM		

Friday, 8 March 2019				
Concurrents	Workshop	Education	Mammals I	Veterinary
Room	Salon 2	Ballroom D	Ballroom E	Ballroom F
7:30-8:00	<div>Turtle Workshop - A Mark Mitchell, DVM, PhD</div> <div>Limited Enrollment Must attend lecture Thursday afternoon</div>			
8:00-8:30		<div>Educational Superpowers: Designing Custom Programs Amanda Wrigley</div>	<div>Over-wintered Flying Squirrels: Lessons Learned Peggy Popp</div>	<div>The Role of Veterinarians in Improving Animal Welfare in Wildlife Rehabilitation Juli Ponder, DVM</div>
8:30-9:00		<div>Making Wildlife Education More Impactful Debbie Sykes</div>	<div>Cottontails: Commonly Admitted, Uncommonly Complicated! Karen McKenzie</div>	<div>Care of the Emaciated Patient Leslie Reed, DVM</div>
9:00-9:30				
9:30-10:00	BREAK	<div>Education Obstacles, Tips, & Rewards Elaine Friedman</div>	<div>Cost Efficient Enclosure to Enhance Behaviour & Welfare of Red Foxes Cale Matesic</div>	<div>Contagion and Biosafety Julia Whittington, DVM</div>
10:00-10:30	<div>Turtle Workshop - B Mark Mitchell, DVM, PhD</div> <div></div> <div>Limited Enrollment Must attend lecture Thursday afternoon</div>		<div>Captive Rearing & Rehabilitation of North American Foxes Lisa Fosco</div>	<div>Avian Anesthesia & Analgesia Kimberly McMunn, DVM</div>
10:30-11:00		<div>Day Camps for Human, Wildlife, & Environmental Education Alexis Fitzgerald</div>	<div>Wild Fostering Endangered Mexican Gray Wolves Regina Mossotti & Kim Rutledge</div>	<div>Outcomes of Raptors with Spinal Trauma David Scott, DVM</div>
11:00-11:30				<div>Gross Pathology of Herons & Egrets in Northern California Molly Horgan</div>
11:30-12:00		<div>Celebrity Patients: Turning a Communications Burden into a Benefit Anita Moos</div>		
12:00-12:30	LUNCH			
Concurrents	Workshop	Training Ambassadors	Diets & Nutrition	Mammals II
Room	Ballroom A	Ballroom D	Ballroom E	Ballroom F
12:30-1:00	<div>Post-release Monitoring of Oiled Wildlife: Novel Technologies Workshop - A Kyra Mills</div> <div>Limited Enrollment Must attend lecture Thursday afternoon</div>	LUNCH		
1:00-1:30		<div>From Rehabilitation to Ambassador: Choosing, Training, & Maintaining Lori Bankson</div>	<div>Diet Doctors: Practical Skills for Treating Malfunctioning Diets Workshop Lecture Stephanie Herman</div>	<div>River Otter Medicine Heather Barron, DVM</div>
1:30-2:00		<div>Food & Weight Management in Birds Paige Davis</div>		
2:00-2:30		BREAK	<div>Letting Go of the Leash: Empowering our Education Birds Jackie Kozlowski</div>	<div>Wild Food Risks 4 Wildlife Kate Guenther</div>
2:30-3:00	<div>Post-release Monitoring of Oiled Wildlife: Novel Technologies Workshop - B Kyra Mills</div> <div>Limited Enrollment Must attend lecture Thursday afternoon</div>	<div>It's All About Choices Melissa Moore</div>	<div>Farm-to-Cage Feeder Animals Jordan O'Hara</div>	<div>Raising Orphaned Weasels Peggy Popp</div>
3:00-3:30		<div>Revamping your Wildlife Education Program Debbie Sykes</div>		
3:30-4:00				
4:00-4:30				
4:30-5:00				
6:00-10:30	BANQUET--Grand Pavilion Event Tent			

Saturday, 9 March 2019							
Concurrents	Veterinary Seminar	Raptors	Bat Seminar	General Rehabilitation	Workshop		
Room	Ballroom A	Ballroom D	Salon 2	Ballroom E	Ballroom F		
7:30-8:00					Diet Doctors: Practical Skills for Treating Malfunctioning Diets - A Stephanie Herman		
8:00-8:30	RACE Approved Veterinary Seminar Juli Ponder, DVM, MPH & Mark Mitchell, DVM, MS, PhD, DECZM	Rehabilitation Research Enhances Understanding of Raptor Ecology Travis Wilcoxon	Insectivorous Bat Rehabilitation Seminar Renee Schott, DVM; Gail Buhl; & Laura Statsney	Overcoming the Human Factor: Optimizing Outcomes in Wildlife Rehabilitation Michelle Willette, DVM		Limited Enrollment Must attend lecture Friday afternoon	
8:30-9:00		Principles of Raptor Cage Design Update Adele Moore		 Limited Enrollment	Swifts, Hummingbirds, & Mice: Rehabilitation of (Not So) Tiny Proportions Stephanie Ellis		
9:00-9:30		“Nestcue”: Renesting Birds of Prey Jacques Nuzzo	Ideas to Create a Stress-free Release Emily Meredith		Behavioral Aspects & Assessments in Rehabilitation Lynn Miller, PhD & Matt Anderson	BREAK	
9:30-10:00							The Raptor Rehabilitation/ Falconry Interface: Synergy for Release Laura Edmunds
10:00-10:30	Limited Enrollment						
10:30-11:00		The Importance of Sending to Feather Repositories Crystal Sharlow-Schaefer	Limited Enrollment Must attend lecture Friday afternoon				
11:00-11:30				LUNCH	LUNCH		
11:30-12:00	Continued until 5:00pm					One Health	General Rehabilitation II
12:00-1:00		Ballroom D	Ballroom E				
Concurrents				Use of Medications & Vaccines: A One-Health Approach Ernesto Dominguez, DVM	Toxic/Hazardous Substances Shall NOT be Used in this Workplace Lauren Caruso & Emily Meredith		
Room	Antimicrobial Stewardship in Wildlife Rehabilitation Theresa Knoblock					Re-purposing Tri-State’s Oiled Wildlife Modular Cage Designs Michelle Knapp & Dennis Davis	
1:00-1:30		Antimicrobial Resistance in Wildlife Karra Pierce, DVM	Building Bridges & Going to the Zoo Halley Buckanoff & Kai Williams				
1:30-2:00				The Ripple Effect: Water Quality & Wildlife Health Heather Barron, DVM			
2:00-2:30	Saturday Field Trip: Field Trip to Endangered Wolf and World Bird Sanctuary Meet by Main Entrance/Lobby; bus will load at 9:05 and depart promptly at 9:20AM Returning from field trip at 4:30PM.						
2:30-3:00							
3:00-3:30							

Act Local: Fostering Community Connections for Wildlife

In 2019 the Missouri Wildlife Rescue Center commemorates 40 years of wildlife rehabilitation and public education; it's a perfect time to host the National Wildlife Rehabilitators Association Symposium in St. Louis and celebrate what brings us together. Our chosen theme, *Act Local: Fostering Community Connections for Wildlife*, is a both call to action as well as a reminder that the positive impact we have starts in our own backyards.

Last year, 190 volunteers logged over 20,000 hours of service with the Missouri Wildlife Rescue Center. Members of the public as well as local government and nongovernment agencies brought 2,918 animals to our facility. Our animal care work was elevated to new heights through partnerships with local organizations. Staff and volunteers collaborated with the St. Louis Zoo's Institute for Conservation Medicine contributing data on rehab turtles to an ongoing study of box turtle health. Our executive director assisted the Endangered Wolf Center with the cross-foster of four captive born wolf pups to wild parents in New Mexico and Arizona, contributing to the recovery of the critically endangered Mexican Gray Wolf. Our collective impact grows when we connect, partner, and engage with one another and our communities.

The logo for Symposium 2019 depicts some of the wild creatures we all care for gathered beneath the iconic St. Louis Arch. We welcome you to our back yard and are excited to learn, share, and grow with you!



Whova App

This attendee app is the most up-to-date version of the program schedule and sends alerts to attendees about changes and reminders for what is next. The app also allows you to make your own agenda to stay organized, connect with attendees, ask questions, and submit feedback.

How to use the app

Download the app

- from the link at www.nwrawildlife.org, under the Symposium 2019 tab;
- from the link emailed to you;
- or Search “Whova” in the App Store on your iPhone, or in Google Play on your Android phone.

Sign into the app by entering the email address you used to register for the Symposium. If you have trouble using your email, you can search for the Symposium event by entering the event code: nwryo. Once you have signed in, you can create a password: enter your name to be directed to your user profile. Edit your profile and, if desired, you may include a photograph to make it easy for other attendees to connect with you.

On the Home Screen you will find several resources, including a shortcut to a listing of Exhibitors and related information.

Along the bottom of the home screen are several icons:

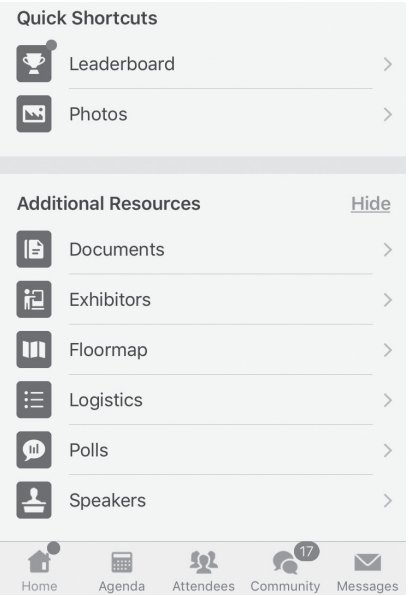
- Agenda—The schedule of all Symposium events that allows you to create your own agenda to keep organized

- Attendees—A list of all attendees and speakers at the event; you can request to share contact information, meet with them, or connect them with a colleague

- Community—Use like a paper bulletin board. You can view preset bulletin board topics or start a thread of your own. Preset topics include organizer announcements, social activities, job openings, lost and found, and ask the organizer.

Under Additional Resources you can find:

- Documents—Some handouts can be downloaded and viewed here
- Floormap—Diagram shown on Page 2 of this program book
- Logistics—Great information about hotel shuttles, gathering areas, and other miscellaneous tips for the week
- Speakers—Additional information on this week’s speakers.



A Message from Animal Professional

AnimalProfessional.com is pleased to be attending our second NWRA conference! For those of you that are unfamiliar with our website, AnimalProfessional.com was created by “Animal Professionals” for “Animal Professionals.” We have spent the past 10 years building a website where people working with animals can come to learn and share from one another. Our Mission is: to utilize today’s technology to share information globally for the benefit of the animal world.

While we are here this week, we will be recording presentations in the full grand ballroom on Wednesday, March 6th and in Ballrooms D & E for the remainder of the conference. These video presentations will then be available to the NWRA membership. Current NWRA members should already have access to our website as well as the 2018 conference videos.

New members will receive an email from no-reply@editmysite.com with their unique Username and Password when the 2019 videos are posted.

As an added benefit NWRA St. Louis conference attendees will have access to the entire AnimalProfessional.com video library for two months beginning April 1st.

We strongly believe that the presentations and knowledge shared here in St. Louis should live on long after the conference ends. We hope you enjoy this new member benefit and we hope you have a great week of networking, learning, and sharing!

AnimalProfessional.com Team

Limited Enrollment Activities and Waitlists

Participation in some of the activities this week—workshops, some seminars, and field trips—is limited due to availability of seats or supplies, or to optimize the instructor to student ratio.

Activities with limited enrollment are noted on the daily program grids.

- If you have registered for any of these limited enrollment activities, or are on the waitlist to attend, please plan to arrive to the events early.
- Only cash payments, in exact change, are accepted at the entrance for those who gain entry.
- For **Seminars and Workshops**, plan to arrive at the room ten minutes before the start of the event. If you are late (late is defined as not being checked in and in the workshop room by the start time), anyone waiting is eligible to take your spot. Late arrivals are not allowed into Seminars or Workshops, and no refunds are given to late arrivals.
- For **Field Trips**, plan to arrive 10 to 15 minutes before the time the bus is scheduled to depart. Meet your field trip bus at the hotel main entrance / lobby door. Buses will begin loading 15 minutes before the scheduled departure time. If you are not on the bus at the bus departure time, anyone on the waiting list is eligible to take your spot. Buses depart on time and no refunds are given to late arrivals.



National
WILDLIFE REHABILITATORS
Association

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Mary Jo Holewa – Office Assistant
Miranda Washington – Bookkeeper / Accounting Clerk

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Logo Design

Molly Brennan

Auction/Raffle

Bettina Bowers

Patricia Mackay

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Audio-Visual

Steve Thrune

Nick Lattimore

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AnimalPro

Additional volunteers who contributed their time, resources, and support

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Greater St. Cloud Area RSVP

A BIG NWRA THANK YOU to



Wildlife Rescue
Center Volunteers



World Bird Sanctuary
Team



TreeHouse Wildlife
Center Team

With special thanks to the Wildlife
Rescue Center Host Committee:

Carla DeRousse

Molly Brennan-logo artist

Katie Moreau

Robin Rivard

Kim Rutledge

Jennifer Engle

Lacie Jett-Ricketts



NWRA SYMPOSIUM 2019 EXHIBITORS

Exhibitors available Wednesday, March 6 to Friday, March 8 unless otherwise noted

Auntie MM's Custom Boutique

Millersville, PA
(717) 872-8923
bdshank@gmail.com
www.auntiemmscustomboutique.org

Avian Power Line Interaction Committee (APLIC)

Newark, DE
(202) 508-5647
rloughery@eei.org
www.aplic.org

Bird Ally X

Arcata, CA
(888) 975-8188
info@birdallyx.net
www.birdallyx.net

Blue Aster Studio

Bloomington, IN
(812) 929-9016
contact@blueasterstudio.com
www.blueasterstudio.com

CDE Animal Cage

Omaha, NE
(800) 528-2243
shawn@cdecages.com
www.cdecages.com
Wednesday & Thursday only

Christian-Baker Company

Camp Hill, PA
(717) 761-4712
jimp@buybestins.com
www.buybestins.com

Emeraid-Lafeber Company

Cornell, IL
(800) 842-6445
info1@lafebermail.com
www.lafeber.com

International Wildlife Rehabilitation Council (IWRC)

Eugene, OR
(866) 871-1869
director@theiwrc.org
www.theiwrc.org

Mazuri Exotic Animal Nutrition

Shoreview, MN
(800) 227-8941
info@mazuri.com
www.mazuri.com

Nature's Way

Ross, OH
(800) 318-2611
Tim@thenaturesway.com
www.thenaturesway.com

Nebraska Wildlife Rehab

Omaha, NE
(402) 234-2473
info@nebraskawildliferehab.org
www.nebraskawildliferehab.org

North Star Science & Technology

Oakton, VA
(410) 961-6692
blake@northstarst.com
www.northstarst.com

One Of A Kind

Waupun, WI
(920) 318-9518
oneofakindgloves@gmail.com

PetAg, Inc.

Hampshire, IL
(800) 323-6878
info@petag.com
www.petag.com

The Raptor Center

St. Paul, MN
(612) 624-4745
raptor@umn.edu
www.raptor.umn.edu

Wildlife Center of Virginia

Waynesboro, VA
(540) 942-9453
wildlife@wildlifecenter.org
www.wildlifecenter.org

Wildlife Rehabilitation Medical Database (WRMD)

Martinez, CA
(925) 330-8351
rachel@wrmd.org
www.wrmd.org

Wildlife Rescue Center

Ballwin, MO
(636) 394-1880
animalcare@mowildlife.org
www.mowildlife.org



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Avian Power Line Interaction Committee (APLIC)

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Wildlife Rehabilitation MD (WRMD)

Poster Session

Judi and Bruce Goodman

*St. Louis Zoo, Endangered Wolf and World Bird Sanctuary,
and Wildlife Rescue Center Field Trips*

Orphaned Wildlife Rescue Center, MD

Veterinary Seminar



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Session & Workshop Sponsors

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Oiled Wildlife Care Network, Karen C. Drayer Wildlife Health Program,
UC Davis—*Post-Release Session*

Oaken Acres Wildlife Center ~ Every life matters! Sycamore, Illinois—
Mammal Session I

Pet Ag—*Diet / Nutrition & Radiology Session, and General Rehabilitation Session*

Focus Wildlife—*Post-Release Session*

Avian Power Light Interaction Committee—*Raptor Session*

Fellow Mortals Wildlife Hospital, Lake Geneva, WI: In memory of Marlys
Bulander, and in appreciation of our partners at US Fish & Wildlife Service—
Federal Roundtable

Education Ambassadors Roundtable—*Michele Goodman and Elaine Thrune*

Avian Vet Topics Session—*Michele Goodman and Ian Gereg*

Veterinary Session—*Judi and Bruce Goodman*

NWRA Gratefully Acknowledges Symposium 2019 Donors

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ANNOUNCING—NWRA Scholarships Awarded in 2019



Jan Snook (AK)—James J. Wolf CARE for Wildlife Education Scholarship, given through NWRA by member Linda Wolf, DVM, in memory of her father James J. Wolf, who inspired a great love and respect for animals and a belief in the tremendous importance of education. \$600 is awarded to enhance the education of a wildlife rehabilitator through attending the NWRA Symposium.

Julia Silva Seixas (Brazil)—Rachel Fischhoff Education Scholarship, given through NWRA by Rachel Fischhoff, a Life Member of NWRA, who wishes to support other members. \$650 is awarded as credit certificates redeemable through NWRA to pay for educational publications, symposium fees, and/or membership dues.

Leanne Adams (TN) and Anysia Avila (CA)—Debra L. Chandler Memorial Scholarships, given through NWRA by Barry D. Chandler, MD, and the Chandler family in loving memory of Debbie Chandler, a long-time member and dedicated wildlife rehabilitator who touched many lives, both animal and human. Two \$500 scholarships are given to enhance the education of wildlife rehabilitators through attending the NWRA Symposium.

Alex Stofko (AZ)—Patty Manning Memorial Scholarship, given through NWRA by members Dianne Barr, DVM, and Denise Barr in loving memory of a devoted rehabilitator and kind friend. \$500 is awarded to an individual to improve their skills and knowledge by attending the NWRA Symposium.

Pat Silovsky (KS)—Eric Sticht Memorial Scholarship, given through NWRA by member Dave Weeshoff in memory of Eric Sticht, a friend of aquatic birds and enthusiastic volunteer at International Bird Rescue, San Pedro, CA. \$675 is awarded to enhance the education of a wildlife rehabilitator through attending the NWRA Symposium.

Nanette Soistman (FL), Peggy Popp (WI), and Polly Rixe (MN)—NWRA Cage Building Scholarships, given by two NWRA members who wish to see wildlife housing meet the *Minimum Standards for Wildlife Rehabilitation*, and by the Orphaned Wildlife Rescue Center. \$600 for barn owl rehab with surrogate housing; \$1,200 for pre-release flight cage for bats; \$1,400 for white-tailed deer fawn caging.



Gina Arens (IN)—Alma Natura Trust Scholarship, given through NWRA by two NWRA members to support rehabilitator education and training and to nurture interactions with Nature. \$750 is given to enhance the education of a wildlife rehabilitator through attending the NWRA Symposium.

Melissa Gutierrez (Belize)—Alma Natura Trust International Scholarship, given through NWRA by two NWRA members who wish to support education and training of rehabilitators from abroad. \$1,750 is awarded to enhance the education of a wildlife rehabilitator through attending the NWRA Symposium.

Theresa Knoblock (MA)—William Jessen Memorial Scholarship, given through NWRA by member Elaine Friedman in memory of her brother William Jessen and in honor of all creatures that capture your heart, expertise, and time but never make it to release. \$500 is awarded to symposium speakers who share valuable information, skills, and expertise, enabling rehabilitators to help more animals.

Molly Horgan (CA)—Ed Hiestand Memorial Veterinary Student Scholarship, given through NWRA and funded by individual donors in memory of Ed Hiestand, a long-time NWRA member and passionate wildlife educator. Additional funding provided by the Orphaned Wildlife Rescue Center. \$1000, symposium registration, and banquet ticket are awarded to a veterinary student whose paper is selected through a paper competition for presentation at the NWRA Symposium and publication.

Sheena Patel (MD)—Maryland Wildlife Rehabilitator Scholarship, given through NWRA and funded by the Orphaned Wildlife Rescue Center (OWRC). \$1000 is awarded for a Maryland wildlife rehabilitator to gain education and training through attending the NWRA Symposium.

Marjorie Sapp (MI)—Michigan Wildlife Rehabilitator Continuing Education Scholarship, given through NWRA and funded by the Michigan Wildlife Rehabilitators Association. \$500 assists a Michigan wildlife rehabilitator to attend the NWRA Symposium for continuing education credit required by the MI DNR for permit renewal.



Shelbie (Phillips) Dell (IN)—Donald L. Burton Veterinary Student Scholarship, given through NWRA by friends of Dr. Burton, in memory of Dr. Don Burton, a long-time member and dedicated wildlife veterinarian. \$500 is awarded to enhance the education of a veterinary student interested in working with wildlife.

Ariel Wagner (PA), Katie Minnihan (IA), Ashley Hays (IA), Sarah Schwartz (IL), and Jessica Kelly (IA)—Educational Materials Scholarships. Five individual scholarships in the form of credit certificates redeemable through NWRA and funded by the Orphaned Wildlife Rescue Center. \$500 is awarded to each recipient to help purchase the vital educational and reference publications needed to be informed and effective.

21 individual scholarships totaling \$15,125

NWRA Scholarship Applications are accepted August 1 to October 1 of each year. Details can be found at www.NWRAlife.org: select **Programs, Scholarships**.



ICE BREAKER RECEPTION

5:30-9:00pm, Riverboat

If you registered for the Ice Breaker, meet the bus at the front entrance to the hotel. Buses will begin loading at 5:15pm and will depart the Marriott at 5:30pm. A cash bar is available on the Riverboat if you wish to purchase drinks on the boat.

FOOD TRUCK NIGHT!

Wednesday, 5:30-7:00pm, Grand Pavilion Event Tent

We are excited to bring some flavors of St. Louis to you! A wide variety of items can be purchased from the trucks during the scheduled dinner break. Look for the list of food trucks and menus posted in the Grand Ballroom Foyer and on the WHOVA app. Guest's of attendees are welcome to attend.

WORKSHOP REGISTRATION

Grand Ballroom Foyer

Workshop registration is available at the NWRA registration desk during the Symposium, or online. Online registration is found at <https://www.nrawildlife.org/event/Workshop2019>. To register online, you must log in to your profile on the NWRA website.

Registration for each workshop is available up to the time the registration desk closes the day before the workshop occurs. After this time, the only opportunity to attend a workshop is to wait at the workshop room door the day the workshop is offered. Attendees on a waiting list or waiting at the door, but not registered for the workshop, are required to be at the door at least 10 minutes prior to workshop start time. All attendees who gain access must pay the \$20 workshop fee in the exact dollar amount and in cash. Each workshop is two hours long.

NWRA SALES TABLE

Grand Ballroom Foyer

Visit the NWRA Staff for camaraderie and candy at the NWRA Sales Table. Do you have a great veterinarian or indispensable volunteer that you want to thank? Come to the Sales Table and we will help you find that perfect gift for them. Remember to get a gift for yourself too. Check out the great Symposium Specials going on right now!

Special Items

* Symposium 2019 Logo Shirts

* Great Local Reference Book: *The Wild Mammals of Missouri*

EXHIBITS

Grand Ballroom Foyer

Spend some time looking at the new equipment, supplies, jewelry, and fun stuff from all 18 vendors! Remember to pick up a gift for your pet sitter, your volunteers, and don't forget to choose something nice for yourself!

THE PAM REGER KEYNOTE PRESENTATION

Grand Ballroom

Sharon L. Deem DVM, PhD, Dipl ACZM

Director of the Saint Louis Zoo Institute for Conservation Medicine

Dr. Sharon Deem is a wildlife veterinarian and epidemiologist. Sharon has conducted conservation medicine projects in 30 countries around the world. Her interests in wildlife veterinary medicine focus on the spread of disease between domestic animals and wildlife and the health impact of environmental changes and human contact on wild species.

NWRA is honored to have Dr. Deem open the 37th Annual Symposium with her keynote presentation on the Anthropocene Age, the One Health initiative, and the role that wildlife rehabilitators play in ensuring the health of animals, people, and the planet.

First Time Attendees and New NWRA Members

We are excited you are here!

Join us to learn more about navigating the Symposium and understanding your membership with NWRA. NWRA Staff, Board Members, and Committee Members will take turns answering your questions and hosting conversation. Join us at the NWRA table:

Monday at 6 pm, in Salon 1

Tuesday at the Icebreaker

Wednesday during the dinner break, in the Grand Pavilion Event Tent

Thursday during the Poster Session, in the Grand Pavilion Event Tent

ANNUAL NWRA MEMBERSHIP MEETING

Grand Ballroom

All members are encouraged to attend the 2019 annual Membership meeting. This meeting is your opportunity to learn more about NWRA—about the programs and services available to members. Come meet the NWRA board of directors and talented staff! Come learn about insurance for wildlife rehabilitators—a must have for wildlife rehabilitators—from Jim Pace from the Christian-Baker Company. The annual Membership meeting is your time to learn about what NWRA is doing to help rehabilitators help wildlife. Grant and scholarship recipients will be announced and there will be plenty of time for members to ask questions.

PIZZA PARTY AND POSTER SESSION

Grand Pavilion Events Tent



Everyone is invited to attend the 2019 Poster Session, held in conjunction with NWRA's first **pizza party!**

Grab a slice and stroll among the posters and exhibits, while mingling with your colleagues. Who knew learning could be so fun? Or tasty?!



RAFFLES AND SILENT AUCTION

RAFFLES



Several raffles take place during the week, with lots of chances to win!

1. Drawings occur at the Membership Meeting—no purchase necessary, but you must attend to win!
2. Raffle drawings held every day—so visit the NWRA Sales Table to view the items to be raffled each day.
3. The BIG raffle (with lots of great prizes) occurs during the Banquet—tickets are \$1 each or six for \$5. You do not have to attend the Banquet to win.

All proceeds support the projects of NWRA!

SILENT AUCTION

The Auction takes place at the Banquet.

Raffle & Auction items this year include:

- A microscope
- Restaurant gift cards
- Animal care and feeding gift cards
- Educational materials
- Wildlife art
- Symposium registration for 2020 or 2021
- Puppets, t-shirts, and more!

All proceeds support NWRA projects and programs that support you, the members, and benefit wildlife in care.

Raffle and Auction items are rotated and displayed daily, so be sure to stop by to check the new items!



Veterinarians, Vet Techs, and Vet Students



Please plan to attend the NWRA Veterinary Committee meeting Wednesday 5:30-6:30pm in Salon I

NWRA AWARDS BANQUET & SILENT AUCTION

6:30–10:00pm in the Grand Pavilion Event Tent

Cash Bar opens at 6:00pm



Master of Ceremonies

Melissa H. Moore

Join us for a night of fun, food, and comradery as we enjoy our last evening together in St. Louis! This year's Host Committee banquet theme encourages you to embrace the vibrant colors and costumes of Mardi Gras. Mardi Gras attire often includes the official colors of Mardi Gras (green, gold, and purple); as well as decorative masks including animal masks.

Host Committee led games, slide show, and the raffle/auction will keep you entertained while you enjoy your banquet dinner.

Where will NWRA be in 2020? Come to the banquet to find out!



Monday, March 4th

IWRC—Ballroom A

Basic Wildlife Rehabilitation Course (Day 1), International Wildlife Rehabilitation Council

Renée Schott, DVM, Wildlife Rehabilitation Center of Minnesota, MN renee@wrcmn.org

Halley Buckanoff, North Carolina Zoo VHS Wildlife Rehabilitation Center, NC nczoo.wildliferehab@nczoo.org

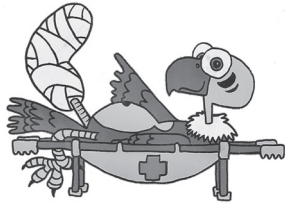
A two-day introductory course with lecture topics that include: introduction to wildlife rehabilitation, basic anatomy and physiology, intake and admission, fluid therapy, handling and physical restraint, nutrition, head and spinal trauma, zoonoses, housing and criteria, for release and euthanasia. *Wildlife Rehabilitation: A Comprehensive Approach*, a newly published book from IWRC, is included in the price of the two-day class, along with *Minimum Standards for Wildlife Rehabilitators*. The seminar includes a half-day lab to practice techniques in: gavage, physical restraint, intramuscular and subcutaneous injections, basic physical examination, basic bandaging, and limb immobilization.

Tuesday, March 5th

Seminar—Ballroom A

Wound Care & Bandaging Seminar

Shari Siksay, VMD shary.in.africa@gmail.com



This eight-hour seminar includes both didactic and hands-on learning focusing on the basics of wildlife wound management in the morning, and both mammal and avian bandaging in the afternoon. Wound management topics covered include wound assessment, triage, cleansing, and treating. Students learn how to assess and describe a wound, develop a treatment plan, and are able to follow through with their plan in the hands-on lab. During the bandaging session, students learn to apply many different types of bandages including Robert Jones, modified Robert Jones, figure of 8 wing wrap, wing-to-body wrap, leg-to-body wrap, Z-splint, L-splint, spoon splint, interdigitating and ball bandages, and the application of orthopedic shoes/sandals.

Seminar—Ballroom D

Advanced Training Seminar

Gail Buhl, Partners for Wildlife, MN gailbuhl@umn.edu

Jackie Kozlowski, Tracy Aviary, UT jackiek@tracyaviary.org

Melissa Moore, New Mexico Wildlife Center, NM melissam@newmexicowildlifecenter.org

Ready to take your training skills to the next level? Through discussions, videos, and interactive activities we look in depth at the concepts involved in advanced behavior modification. Topics covered in this six-hour seminar include, but are not limited to, writing and understanding a functional assessment, working with a new education animal, interpreting behavior, shaping and chaining desired behaviors, and understanding food and weight management. Desired prerequisite for this seminar is a solid understanding of operant conditioning and some experience in its application.

IWRC—Salon 2

Basic Wildlife Rehabilitation Course (Day 2), International Wildlife Rehabilitation Council

Renée Schott, DVM, Wildlife Rehabilitation Center of Minnesota, MN renee@wrcmn.org

Halley Buckanoff, North Carolina Zoo VHS Wildlife Rehabilitation Center, NC nczoo.wildliferehab@nczoo.org

A two-day introductory course with lecture topics that include: introduction to wildlife rehabilitation, basic anatomy and physiology, intake and admission, fluid therapy, handling and physical restraint, nutrition, head and spinal trauma, zoonoses, housing and criteria, for release and euthanasia. *Wildlife Rehabilitation: A Comprehensive Approach*, a newly published book from IWRC, is included in the price of the two-day class, along with *Minimum Standards for Wildlife Rehabilitators*. The seminar includes a half-day lab to practice techniques in gavage, physical restraint, intramuscular and subcutaneous injections, basic physical examination, basic bandaging, and limb immobilization.

Wednesday, March 6th

Wednesday Morning

Opening Session—Grand Ballroom

Keynote: Wildlife Health in the Age of the Anthropocene

Sharon L. Deem, DVM, PhD, dip ACZM, St. Louis Zoo, MO



We are living in the Age of the Anthropocene, an epoch defined by human-driven planetary changes. From climate change to resource depletion and the loss of biodiversity, we are altering the qualities that make Earth the only planet known to support life. These human-created challenges have increasingly clear impacts on the health of all species. Exponential human population growth has increased interaction between wild and domestic animals and the movement of pathogens around the globe, fueling emerging infectious diseases detrimental to human and non-human animals alike (e.g. Ebola, white nose syndrome, avian influenza). Climate change brings a suite of additional health impacts through temperature shifts and extreme weather events as can be seen in the wild fires throughout California and the mass death of flying foxes during the recent Australian heat waves. Be it an increase in harmful algal blooms or the effects of endocrine-disrupting compounds (e.g., BPA), pollution and plastic waste also similarly take a toll on all life in our shared ecosystems. How does this new Age influence the work of the NWRA community? We know that the health of wildlife populations are increasingly threatened by anthropogenic changes, from habitat degradation and fragmentation, conflict with domestic animals, to shared infectious diseases. These threats to wildlife health and conservation, which are extensive and appear to grow annually, are both a curse and an opportunity. With the growing One Health initiative and the understanding that the health of animals, humans, and ecosystems are all interconnected, we are better poised to confront today's wildlife health challenges. In this talk, we consider the Anthropocene, the One Health initiative, and the role that wildlife rehabilitators play in ensuring the health of animals, people, and the planet.

Setting Limits Session—Grand Ballroom

Jenny Schlieps—Moderator

Chronic Case Management: When to Call it Quits

Sarah Reich, DVM, University of Illinois Wildlife Medical Clinic, IL skreich2@illinois.edu

Chronic case management can be one of the most frustrating aspects of wildlife rehabilitation. Even the most objective individuals can become attached to cases, especially those that have required numerous treatment plans. In these instances, it can be difficult to not only draw the line but determine when that line needs to be drawn. Discussion includes chronic case management and how/when to set goals and timelines, as well as how to approach euthanasia when these goals are not met.

Drowning in Empathy: Fighting Compassion Fatigue by Building Resiliency

Samantha Sander, DVM, University of Illinois College of Veterinary Medicine, IL sjs11@illinois.edu

Wildlife rehabilitation can be as draining as it is fulfilling. Funding limitations, difficult cases, and “caring too much” can leave one feeling discouraged, guilty, or empty. We are all at risk for compassion fatigue and burnout, yet self-care is continually set aside in order to prioritize the care of animals. Building resiliency, setting boundaries, and knowing how and when to mentally reset is just as important to a successful wildlife center as the animals and care they receive. Wellness is important for all of us - wildlife and their caretakers alike. Strategies on defining self-care in a wildlife center are included.

Wednesday Afternoon

Animal Welfare Plenary—Grand Ballroom

Juli Ponder, DVM—Moderator

Animal Welfare: Perspectives from a Human Primate

Mark Mitchell, DVM, MS, PhD, DECZM, Louisiana State University Veterinary Teaching Hospital, LA mmitchell@lsu.edu

Welfare. We use this term in many different ways. It can define how we look and manage others, as well as ourselves. When it comes to animals, and we should include ourselves, how we define welfare can affect how we care for our patients and our own work-life harmony. It is important for us to take a moment to evaluate our approach and opinions on welfare using evidence-directed data to ensure we are meeting our potential as caretakers of the wildlife and humans in our society. The purpose of this presentation is to remind us of this importance.

Animal Welfare Consideration in Wildlife Rehabilitation Practices

Jennifer Convy, PAWS Wildlife Center, WA jconvy@paws.org

What are the criteria to consider ensuring animal welfare in your care? This discussion covers best practices in animal welfare, including: intake, rehabilitation, medical care, pre-release conditioning, and release. What factors should you be thinking about, what factors should you be taking action on, and what should you never lose sight of?

Animal Welfare: Best Practices in Accepting Non-releasable Wildlife for Ambassador Programs

Gail Buhl, Partners for Wildlife, MN gailbuhl@umn.edu

How can we use best practices accepting non-releasable wildlife into an ambassador program? How can using animal welfare set ourselves and the animals in our educational programs up for success from the start? This discussion is an overview of criteria to assist you in making these important life-long decisions.

Federal Roundtable—Grand Ballroom
Sponsored by Fellow Mortals Wildlife Hospital
Jeff Meshach—Moderator

Working Together: Federal Rehabilitation, Education and Eagle Permits, Migratory Birds and You!

Resee Collins, U.S. Fish & Wildlife Service Resee_Collins@fws.gov
Carmen Simonton, U.S. Fish & Wildlife Service

MIGRATORY BIRD AND EAGLE FEDERAL PERMITS: NWRA 2019
USFWS permit staff present the most current information on the regulations for rehabilitating migratory birds and possessing migratory birds and eagles in captivity for educational purposes, permit resources available and items of possible impacts and interest to current permittees.
A question/answer session addressing rehabilitation and education permit types is also featured.

Wednesday Evening

In-House Bloodwork Session—Ballroom A
Leslie Lattimore—Moderator

Using In-House Bloodwork to Guide Case Management

Nicki Rosenhagen, DVM, Progressive Animal Welfare Society, WA nrosenhagen@paws.org

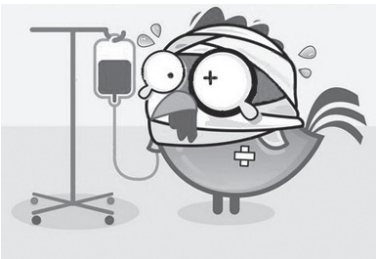
This two-hour lecture provides an overview of in-house bloodwork (packed cell volume, total solids, and buffy coat), then transitions to an interactive, case-based discussion. Attendees receive a patient history, physical exam findings and blood values, and learn to use this information to make decisions on case management.

Avian Veterinary Topics Session—Ballroom D
Sponsored by Michele Goodman and Ian Gereg
Erica Miller, DVM—Moderator

Management of the Post-surgical Avian Patient

Sarah Reich, DVM, University of Illinois Wildlife Medical Clinic, IL skreich2@illinois.edu

This lecture focuses on the management of post-surgical avian orthopedic cases with an emphasis on developing a physical therapy regimen. Maintaining appropriate range of motion and muscle mass during the recovery process can be just as important as the original surgery, and a vital part of the rehabilitation process. Topics include active and passive range of motion exercises, use of goniometry, and adjunct modalities such as cold laser therapy, as well as expected timelines of improvement and criteria for release.



Avian Wildlife Toxicosis

Thomas Tully, DVM, DABVP, DECZM, LSU School of Veterinary Medicine, Wildlife Hospital of Louisiana, LA ttully1@lsu.edu

Toxicosis is a common avian disease presentation. Heavy metal, insecticide, and herbicide toxicity as it relates to the pathophysiology of patients and related clinical signs are presented in this lecture. Case descriptions, as well as treatment options for all toxins covered, are provided. Diagnostic testing for the suspected toxicosis and how to interpret the results relating to clinical treatment response and/or the patient's clinical presentation are included. Participants are informed to successfully recognize, diagnose, and treat avian toxicosis through clinical case description and providing the latest information available.

Bird's Eye View: Basic Intro into Avian Ophthalmology

Allison Daugherty, DVM, Lindsay Wildlife Experience, CA allison.daugherty@gmail.com

This lecture covers basics of avian ophthalmology from a wildlife rehabilitation perspective. Topics include basic anatomy, terminology, care that wildlife rehabilitators can do, when to go to a veterinarian, and what a veterinarian can do for rehabilitators.

Workshop Lectures Session—Ballroom E
Jennifer Engle—Moderator

Basic Diagnostics Workshop Lecture

Sherri Cox, DVM, National Wildlife Centre, ON coxs@uoguelph.ca

Baseline diagnostic tests can provide a tremendous amount of information in terms of what might be going on with an animal, and to provide some idea of prognosis. This workshop lecture reviews basic laboratory analysis to help contribute to the animals' health and well-being. Performing these tests help you and your veterinarian determine the best course of treatment for the patients in your care. This lecture is a prerequisite for the basic diagnostics workshop.



Basic Parasitology Workshop Lecture

Sarah Reich, DVM, University of Illinois Wildlife Medical Clinic, IL skreich2@illinois.edu
Samantha Sander, DVM, University of Illinois College of Veterinary Medicine, IL sjs11@illinois.edu

Wild animals can present to a rehabilitation setting with a variety of internal and external parasites. Many of these can be easily diagnosed with the aid of a microscope and some basic supplies. Topics covered in this lecture include ectoparasite testing (tape preparations, impression smears, and skin scrapes) and endoparasite testing (wet mounts and fecal flotations). Participants learn how to acquire samples, prepare slides, and use the provided microscopes to interpret results. This lecture is a prerequisite for the basic parasitology workshop.

Disaster Preparedness—Ballroom F
Ernesto Dominguez, DVM—Moderator

Disaster Preparedness & Evacuation

Emily Davenport, Rocky Mountain Wildlife Alliance, CO connect@rmwalliance.org
Elizabeth Chouinard, Ojai Raptor Center, CO lizzybrewer@gmail.com

As wildlife rehabilitators, one of our worst fears is the thought of a natural disaster striking our facility. What would we do with the animals? What supplies would we need to take to assure their continued care? Disasters can strike at a moment's notice. The U.S. regularly experiences a variety of natural disasters due to its vast size and geographic diversity. While a disaster can occur due to any extreme natural event such as hurricane, fire, flood or earthquake, it is technically characterized by causing significant amount damage and/or loss of life. Emily and Elizabeth share personal experiences of going through flood and fire while sharing tips for emergency preparedness, evacuation, and the basics of putting together an evacuation kit.

Thursday, March 7th

Thursday Morning

Basic Diagnostics Workshop—Salon 2

Basic Diagnostics Workshop

Sherri Cox, DVM, National Wildlife Centre, ON coxs@uoguelph.ca

Baseline diagnostic tests can provide a tremendous amount of information in terms of what might be going on with an animal and provide some idea of prognosis. This laboratory is designed for students interested in learning basic laboratory analysis to help contribute to the animals' health and well-being. Performing these tests help rehabilitators and veterinarians determine the best course of treatment for the patients in care.

Avian Imping Workshop—Ballroom A

Avian Imping Techniques Workshop

Jeff Meshach, World Bird Sanctuary, MO jmeshach@worldbirdsantuary.org

The art of imping, or feather repair, is essential for any rehabilitator who has to deal with feather damage, especially in raptors. In birds with injuries that require intensive care and small cages, broken feathers are almost inevitable. Instead of spending the money, effort, and space waiting until the bird molts good feathers, why not imp and get the bird back into the wild quicker? *No prerequisite lecture.*

Volunteer Session—Ballroom D
Diane Nickerson—Moderator



Volunteer Management: Proven Ways to Use Your Best Resource

Jill Argall, Humane Animal Rescue Wildlife Center, PA jargall@humaneanimalrescue.org
Jenna Cord, Humane Animal Rescue Wildlife Center, PA jcord@humaneanimalrescue.org

Most wildlife centers use volunteers in some capacity, but are you using them to their full potential? Taking time to evaluate your program can make a world of difference for both the people and the animals. The plan and design of your program are imperative to its success. Recruitment, screening, training, and recognition are all steps that lead to retention. Discussion includes details on the volunteer program at Humane Animal Rescue Wildlife Center and includes topics that are useful to a program of any size.

Recognition & Retention Opportunities for Volunteers & Interns

Jennifer Baxla, PAWS Wildlife Center, WA jbaxla@paws.org

Well-trained and engaged volunteers are essential to the wildlife rehabilitation process and the smooth running of a wildlife facility with limited staff. While recruitment is important, and we are always looking to add additional volunteers, a primary focus should be on recognizing current volunteers for their efforts and providing enriching experiences and continuing education opportunities to keep them interested in the field and the organization. This lecture focuses on efforts PAWS has made in these areas for both volunteers and unpaid interns, while providing examples of creative ways we engage them in our work.

Working with Volunteers of All Abilities

Jenna Cord, Humane Animal Rescue Wildlife Center, PA jcord@humaneanimalrescue.org
Jill Argall, Humane Animal Rescue Wildlife Center, PA jargall@humaneanimalrescue.org

We all know that being a volunteer at a wildlife center can encompass a lot of physical labor, but it takes many jobs to make a center run smoothly. Have you ever considered opening your program to differently abled volunteers? Being open to bringing diversity into your volunteer group can be a wonderful and useful change. Thinking a little outside the box can provide a valuable experience for everyone involved. Discussion includes how Humane Animal Rescue Wildlife Center works with local groups of both teens and adults with a variety of disabilities.

Getting the Most out of Eagle Scout & Gold Award Service Projects

Roger Holloway, World Bird Sanctuary, MO rholloway@worldbirdsantuary.org

This presentation highlights all of the steps involved in having an Eagle Scout or Gold Award candidate complete a service project to benefit your operation. Discussion includes examples of suitable projects, timelines, communication, and realistic expectations. While working with younger individuals presents challenges, with the right guidance and preparation, the potential to have useful and long-lasting projects implemented can be a reality for you and your facility.

Online Training: Improving Staff & Volunteer Knowledge

Jacqueline Sandberg, Dane County Humane Society's Wildlife Center, WI jsandberg@giveshelter.org

Obtaining proficiency and expertise in the field of wildlife rehabilitation requires intensive study, practice, and training. Wildlife rehabilitators are largely dependent on staff or volunteers to manage larger centers or home-based operations. Training people through the use of oral presentations, written manuals, or hands-on instruction takes significant time and effort. In 2016, DCH's Wildlife Center created individual wildlife training courses using a free, online platform: Open Learning Management. Since then, it has improved volunteer skills, increased personnel knowledge and retention, and saved significant amounts of time and money.

Reuniting Session—Ballroom E
Bettina Bowers—Moderator

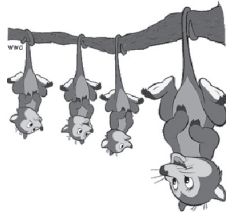
Reuniting & Wild-fostering Birds

Anne Miller, AL amiller_1@bellsouth.net

When healthy young birds are accidentally separated from their parents, wildlife rehabilitators can best help by reuniting them with their own parents, or by wild-fostering them to another breeding pair of the same species. Success is based on an understanding of the nesting behavior of the particular species. Cavity or open-cup nest? Territorial or colonial breeder? Precocial or altricial? How long are the young birds dependent on parents? Examples of reuniting methods for raptors are presented to demonstrate the basic techniques of reuniting, along with brief discussions of strategies for reuniting passerines and waterfowl.

Mother Knows Best: Reuniting Mammals

Laura Simon, Connecticut Wildlife Rehabilitators Association, CT laurajsimon999@gmail.com
John Griffin, Humane Society of the United States jgriffin@humanesociety.org



You want to reunite, but what if the mother will not take her baby back? Uncertainty about the strength of the maternal bond is one of the principal reasons given by wildlife rehabilitators for failing to reunite healthy juveniles. The presenters have had many years of experience reuniting raccoons, skunks, opossums, and squirrels in an urban setting, and show, through videos, the amazing persistence and determination of the maternal bond in a variety of species. These video clips also demonstrate basic reuniting steps as well as critical considerations for successful reunions. Discussion includes some of the factors that affect the maternal behavior of different mammal species, especially those related to successful reuniting and wild-fostering.

Organizing Your Program to Make Reuniting Your Priority

Laura Simon, Connecticut Wildlife Rehabilitators Association, CT laurajsimon999@gmail.com
Anne Miller, AL amiller_1@bellsouth.net

What does it take to change rehabilitators' attitudes about reuniting so it is a priority during baby season? Besides the critical benefits to the young animals, reuniting provides real benefits for over-loaded rehabilitators, allowing them to focus their skills and resources on animals that truly need their help. The presentation offers detailed recommendations for creating a practical reuniting program, both for centers and for individual rehabilitators. The presentation offers effective psychological approaches, plus vital problem diagnosis and persuasion tips that help attendees turn around even that most stubborn caller clutching a newly kidnapped wild animal in her arms. We need a new paradigm where rehabilitation success is measured not just in terms of intake/release statistics, but also in the number of animals successfully reunited and kept out of rehabilitation facilities.

Technology to the Rescue: Essential Tools for Successful Reuniting

John Griffin, Humane Society of the United States jgriffin@humanesociety.org
Laura Simon, Connecticut Wildlife Rehabilitators Association, CT laurajsimon999@gmail.com
Anne Miller, AL amiller_1@bellsouth.net

When you are reuniting wildlife, you need special equipment, tools, and technology to make sure the infants are safe and healthy while waiting for the mother to return, and to monitor the reunion process. This interactive workshop offers participants a chance to see and handle a variety of reunion nests and nest boxes for raptors and songbirds, as well as reunion boxes for mammals, heaters, and other reuniting aids. Information about how to make inexpensive but reliable equipment is also offered. Participants can examine various game cameras and closed-circuit TV cameras for follow-up observation to make sure reunions really do succeed.

Thursday Afternoon

Basic Parasitology Workshop—Salon 2

Basic Parasitology Workshop

Sarah Reich, DVM, University of Illinois College of Veterinary Medicine, IL skreich2@illinois.edu
Samantha Sander, DVM, University of Illinois College of Veterinary Medicine, IL sjs11@illinois.edu

Wild animals present to a rehabilitation setting with a variety of internal and external parasites. Many of these can be easily diagnosed with the aid of a microscope and some basic supplies. Skills covered in this hands-on workshop includes ectoparasite testing (tape preparations, impression smears, and skin scrapes) and endoparasite testing (wet mounts and fecal flotations). Participants learn how to acquire samples, prepare slides, and how to use the provided microscopes to interpret results.

Reptile Session—Ballroom D
Sherri Cox, DVM—Moderator

Snake Care 101

Heather Freeman, Woodlands Wildlife Refuge, NJ hfreeman610@gmail.com

Snakes are some of the most misunderstood animals. It is amazing and inspiring to witness interest and caring increase for these unique species. Woodlands Wildlife Refuge is permitted to care for snakes, including venomous species, and we have seen a major increase in snake rehabilitation needs since 2013. There are 23 species of snakes in New Jersey including two venomous species. Not all reptiles are the same. Snakes have specific needs based on species, age, and injury when it comes to housing, nutrition, lighting, temperature control, and more. This session covers basic care and housing for common snake species, common intake reasons, and interesting cases.



Turtle Shell Repair: Let's Get Crackin'

Julia Becker, DVM, Tippecanoe Animal Hospital, IN skinkjb@aol.com

Topics include turtle basics from intake to endpoint. This overview includes an exam of the turtle at intake for assessment of overall health and severity of injuries to determine prognosis. Triage priorities covered include hydration, pain management, wound care and antibiotic usage. Anesthesia protocol options are briefly mentioned, as anesthesia is required for the more invasive shell repair methods. Discussion includes a comparison of several shell repair techniques step-by-step with pros and cons of each and provides a list of recommended supplies, equipment, and reference resources.

The Approach to the Head Trauma Turtle

Leslie Reed, DVM, Wildlife Rehabilitation Center of Minnesota, MN leslie@wrcmn.org

Head trauma is one of the most common injuries wild turtles experience after being struck by a vehicle. A full assessment of the patient's neurological status, soft tissue and skeletal trauma of the head and face, and feasibility of repair must be made on admission or shortly thereafter. This lecture discusses the most common presentations of the head trauma turtle, how to perform a neurological exam, fracture and wound assessment, and euthanasia recommendations. Basic facial fracture repair techniques are also be discussed.

Turtle Workshop Lecture

Mark Mitchell, DVM, MS, PhD, DECZM, Louisiana State University Veterinary Teaching Hospital, LA mmitchell@lsu.edu

This lecture provides participants with an overview of basic turtle rehabilitation skills, including how to complete a thorough physical examination, develop a differential list, and institute appropriate therapy. Specific reviews of infectious diseases of chelonians, therapeutic planning (fluids and other medications), and nutrition for captive chelonians (esophagostomy tubes) are discussed. This lecture is a prerequisite for the turtle workshop.

Post-release Session—Ballroom E
Sponsored by Focus Wildlife
and Oiled Wildlife Care Network, Karen C. Drayer Wildlife Health Center, U.C. Davis
Rebecca Duerr, DVM—Moderator

Innovations in Wildlife Rehabilitation: Bird Banding, Research, & More!

Halley Buckanoff, North Carolina Zoo VHS Wildlife Rehabilitation Center, NC nczoo.wildliferehab@nczoo.org
Renee Schott, DVM, Wildlife Rehabilitation Center of Minnesota, MN renee@wrcmn.org

To improve upon our care for our wildlife patients it is important to participate and/or conduct research. Knowledge gained from research is beneficial in understanding veterinary medical care, husbandry, and nutrition, as well as the potential for post-release survival. This presentation reviews how to find out what studies are currently being done, how to reach out to other institutions/facilities/universities to participate in research, what some recent studies have helped us to understand, as well as an in-depth discussion regarding bird banding in wildlife rehabilitation.

Post-release Monitoring & Its Potential Effects on Rehabilitation

Gail Kratz, Rocky Mountain Raptor Program, CO gail@rmrp.org

While everyone loves a happy ending, knowing what happens to that bird you have invested time and energy in rehabilitating and releasing is incredibly important. Post-release monitoring through banding and then examining band return data can provide useful information that can be applied to rehabilitation. Discussion highlights two species whose band return information was instrumental in changing rehabilitation and release techniques for success!

Releasing Wild Animals & Considerations for Post-Release Survival

Lisa Fosco, Walden's Puddle, Wildlife Center of Greater Nashville, TN LisaCFosco@aol.com

In wildlife rehabilitation, there is much focus on all aspects of the rehabilitation process but very little focus on the release plan. Captive-reared animals and adults with no defined territory are very vulnerable as they enter or re-enter their wild home. With the goal of post-release survival, this presentation includes new data and discusses some of the considerations for releasing our common species as well as case studies on patients with more complicated concerns.

Post-release Monitoring of Oiled Wildlife: Novel Technologies Workshop Lecture

Kyra Mills, UC Davis Oiled Wildlife Care Network, CA kyparker@ucdavis.edu

Technology has come a long way since scientists first started using transmitters and data loggers 40+ years ago. This lecture provides an overview of the types of devices currently on the market, considerations for choosing the right equipment, and what information each unit can provide for monitoring rehabilitated oil spill patients. We also discuss different attachment methods and placement locations of equipment, including their pros and cons. This lecture is a prerequisite for the Post-release Monitoring workshop.

Post-release Survival of Oiled & Non-oiled Aquatic Birds

Rebecca Duerr, DVM, MPVM, PhD, International Bird Rescue Center, CA Rebecca.Duerr@bird-rescue.org

International Bird Rescue has been banding oiled and non-oiled rehabilitated aquatic birds in California since the 1970s. We examined post-release re-encounter information from birds banded during 1997-2011, with re-sightings included through October 2017. During the study period, 23,061 bands were applied to 123 aquatic avian species. Fifty-eight species returned 1-725 re-encounters and 65 species showed zero re-encounters. There were 1,923 re-encountered individual birds from the 58 species: 205 were petroleum-oiled, 1718 were non-petroleum-oiled birds (rehabilitated for other reasons), and one of unknown oiling status. Twenty percent of re-encountered birds were alive at the most recent encounter. This talk explores longevity by species and oiling status.



Administration Session—Ballroom F
Lisa Smith—Moderator

Building an Ethical, Professional, & Sustainable Organization

Yvonne Wallace Blane, Fellow Mortals Wildlife Hospital, WI yvonne@fellowmortals.org
Jean Lord, PhD, Pine View Wildlife Rehabilitation and Education Center, WI jeannie@pineviewwrc.org

Fellow Mortals and Pine View were founded in the 1980s. Originally operated out of the founders' homes, both organizations now run professional wildlife hospitals and education programs funded entirely by donations. While they differ in many ways, their founding principles are the same: an ethical and professional approach to wildlife care, and a commitment to the environment and the human communities they serve. The purpose of the presentation is to encourage other rehabilitators to 'reach for the dream' of building a wildlife organization while providing tips, information, and encouragement based on decades of shared experience.

Starting from Scratch, Sorta

Hilary DeVries, New Mexico Wildlife Center, NM hilary@newmexicowildlifecenter.org

Moving to work at a new facility in a new state can be overwhelming, but what if you had a chance to start your own hospital? This lecture highlights the surprises, challenges, and everything in between when starting over – and includes first-person experiences when the speaker went through this very process. This presentation helps prepare other rehabilitators who may be thinking of expanding or are in the process of starting a wildlife hospital.

Becoming a Media Ambassador

Amanda Nicholson, Wildlife Center of Virginia, VA anicholson@wildlifecenter.org

Speaking with the media is something that many wildlife rehabilitators and educators are faced with at some point in their career, but it makes many of us uncomfortable—or maybe even downright terrified! Learn some tips and tricks that may not make you a media expert overnight, but give you some practical, attainable goals while practicing this skill!

From Hobby to Profession: Changing the Way the World Views Rehabilitation

Joshua Saranpaa, Wildlife Center of the North Coast, OR josh@coastwildlife.org

Many people do not understand what it is that wildlife rehabilitators do. They think that this work is just a hobby to occupy our time, as opposed to a profession that requires skills, knowledge, and a big heart (and oftentimes a strong stomach). We know that wildlife rehabilitation is hard work—both mentally and physically. In this lecture, we discuss different, simple things that can be done to help build the professional image of your operation, and subsequently enhance the credibility of your operation.

Pre-emptive Media Reduced Seasonal Influx of Orphaned (Misplaced) Owls

Thomas deMaar, DVM, Gladys Porter Zoo, TX tdemaar@gpz.org

Deer blinds are common features in south Texas landscapes. Four walls, roof, and elevated openings make blinds perfect barn owl homes. The start of deer season was usually announced by the arrival of sad-looking camouflaged individuals holding a hissing, clacking box. Would it be more efficient to prevent the arrival of these chicks? We disseminated the following message at every opportunity, "At the end of deer season please secure blind openings." Local newspapers were asked to circulate the message. Television channels were invited to barn owl releases to repeat the same message. In successive years the number of barn owls presented for care has reduced.



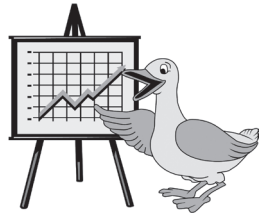
Rehabilitation in Retirement: A Perfect Match

Pamela & William Lefferts, Ferncroft Wildlife Rescue, CT leffertsw@msn.com

Pam and Bill Lefferts are retired after many years in the field of education. Always lovers of animals and looking for volunteer opportunities, they found their niche as CT Wildlife Rehabilitators. They knew nothing about "rehabbers" but fell in love with this job. They own and operate a nonprofit wildlife rescue facility. This is a perfect workshop for people interested in learning about Wildlife Rehabilitation and what it entails to prepare. An interesting and entertaining slide presentation of preparing a rescue habitat, supplies, cost and time commitment.

Thursday Evening

Poster Session—Grand Pavilion Event Tent
Sponsored by Wildlife Rehabilitation MD (WRMD)
Erica Miller, DVM—Moderator



DNA Identification of Coccidian Oocytes from Passerine Feces in Newark, DE

Natalia Ochoa, Tri-State Bird Rescue and Research, DE nocho@udel.edu

Few published studies exist on parasites of wild passerines in rehabilitation facilities. This study surveyed helminths and coccidia from passerines at Tri-State Bird Rescue & Research in Newark, Delaware. In summer 2018, fecal flotations were conducted on samples collected from passerine cages, and eggs classified (nematode, cestode, coccidia). Coccidia were most common, often found in house finches (*Haemorrhous mexicanus*), American robins (*Turdus migratorius*) and common grackles (*Quiscalus quiscula*). To determine the coccidia species, DNA was isolated from fecal samples, primers were designed to target *Eimeria* species, and DNA was sequenced and blasted against known coccidian species in passerines.

VAC Therapy for the Management of Multiple Wounds in an Eastern Ratsnake (*Elaphe alleghaniensis*)

Annabelle Vigneault, QC annabellevigneault@gmail.com

Vacuum-assisted closure (VAC) therapy has been shown to accelerate wound healing in humans and has been described in a few veterinary case reports on mammals and chelonians. An eastern ratsnake (*Elaphe alleghaniensis*) was presented with three severe wounds and despite the limited literature about the use of VAC system on snakes, this technique was used at the Wildlife Center of Virginia to manage this patient's wounds. This method resulted in a fast healing rate, healthy granulation tissue and good contraction of the wounds. However, the overall health of the patient deteriorated, and, after a few weeks of treatments, the VAC system was removed.

Bird Boom Box: An Educational Game for All Ages

Tracy Dawson, Marine Science Center, FL tracyanddawson@yahoo.com
Joshua Eckroth, Marine Science Center, FL joshuaeckroth@gmail.com

This game teaches kids and adults how to identify birds by their calls. The box has buttons and internal electronics. Various sets of bird photos and their common names are arranged so that each of the five buttons corresponds to each of five birds. The player presses a button and listens to a random bird's call. Then the player guesses which bird made the call. The game is currently used by two centers in their educational departments and public events. Data and other insights may be downloaded for analysis that shows which birds' calls are most often confused.



Case Report on the Feather Imping of a Roadside Hawk (*Rupornis magnirostris*)

Julia Silva Seixas, The Pennsylvania State University, PA; Parque Nacional da Serra dos Órgãos, Brazil
silvaseixasjulia@gmail.com

Imping is a commonly practiced procedure in the rehabilitation of birds of prey. It is aimed at quickly restoring the animal's ability to fly, consequently reducing its stay in captivity. The case involved a roadside hawk delivered to Parque Nacional da Serra dos Órgãos. The male individual had all the primary and secondary flight feathers of its right wing anthropogenically cut and lacked human imprinting. The materials used included insulin needles, toothpicks, and araldite glue. To avoid sedation, a cloth covered the hawk's head to keep it under control. The animal's recovery period was shortened from approximately four months to 15 days.

Re-mounting a Natural Cavity for Renesting of Avian Species

Andrea Howey-Newcomb, Tri-State Bird Rescue and Research, DE ahowey@tristatebird.org

In the summer of 2018, Tri-State Bird Rescue & Research successfully renested two healthy families, Eastern screech-owl (*Megascops asio*) and Northern flicker (*Colaptes auratus*), by trimming the still intact natural cavity from an otherwise damaged tree and mounting that cavity onto a nearby tree. The goal of sharing this experience is to decrease the number of healthy hatch-year birds being raised in captivity and increase awareness of techniques for getting babies back out into the wild with their parents. This poster details this process and provide tips for implementing this renesting technique.

Reuniting Nestling Songbirds: Creating Substitute Bird Nests

Bonnie Boime Bonnie.Boime@hotmail.com

This presentation starts with the four “R’s” of wildlife rehabilitation: Reunite whenever possible. Rescue when necessary. Rehabilitate to the best of our ability. Release—our ultimate goal. This poster focuses on the first “R” which is vitally important and often the most overlooked. Reuniting healthy baby wild animals with their parents is best for the baby, the parents, the wildlife rehabilitator, and the other animals in our care. It is also best for the caller. Teaching the community to keep wild families together (when appropriate) not only best serves everyone involved, it empowers people to solve similar problems in the future and to teach others to do the same.



Lights Out Columbus: Saving our Songbirds

Stormy Gibson sgibson@ohiowildlifecenter.org

This year is the 100th anniversary of the signing of the Migratory Bird Treaty Act in the United States, which provides protections for birds traveling across political boundaries and international borders. There is an increasing threat in contemporary cities that causes significant fatalities during migration seasons. Millions of birds migrate through Ohio during peak migration periods in spring and fall, with night migration a significant threat for those moving through urban corridors. Lights aimed at the sky or on tall buildings can cause disorientation, causing the birds to strike windows or circle buildings until they fall from exhaustion. The initial steps of the project will be to engage urban stakeholders, as well as collect and rehabilitate songbirds injured in downtown Columbus during the spring and fall migration seasons of 2019. Data will be analyzed to minimize or eliminate human-induced threats to these Neotropical migratory birds.

Veterinary Perspectives Panel—Ballroom A

Jennifer Convy—Moderator

Veterinary Perspectives on the Management of Selected Infectious Diseases

Samantha Sander, DVM, University of Illinois College of Veterinary Medicine, IL sjs11@illinois.edu

Sarah Reich, DVM, University of Illinois College of Veterinary Medicine, IL skreich2@illinois.edu

Erica Miller, DVM, Pennsylvania Game Commission, DE erica@jfrink.com

Nicki Rosenhagen, DVM, Progressive Animal Welfare Society, WA nrosenhagen@paws.org

Renee Schott, DVM, Wildlife Rehabilitation Center of Minnesota, MN renee@wrcmn.org

The management strategies and ethics of medical intervention for many chronic infectious diseases present within wildlife populations can be quite controversial. In this session, wildlife veterinarians from different regions of the country discuss their approaches and recommendations for these cases, highlighting regional differences as well as reflecting on the implications of these interventions. Diseases discussed include mange, mycoplasmosis, and poxvirus infection as well as others as time allows. Audience participation is welcome.

Disease Session—Ballroom D

Emily Meredith—Moderator

West Nile Virus: A Very Difficult Definitive Diagnosis

David Scott, DVM, Carolina Raptor Center, NC dscott@carolinaraptorcenter.org

West Nile virus (WNV) infection is common in many wildlife species. However, a definitive diagnosis is difficult to achieve. Several diagnostic tests are available but each has advantages and disadvantages. Thirty cases in various raptors with confirmed or suspected WNV infection were included in this study. Various diagnostic tests were run and the results were compared using histopathology of the brain as the gold standard. Ante-mortem diagnosis is rare. While most tests are relatively specific, the sensitivity is low so a negative result has very poor diagnostic value. All suspect cases should be treated early and aggressively.

Mange in Foxes: Following the Evolution of an Epizootic

Lynn Miller, PhD, South Florida Wildlife Center, FL mbeland@securenet.net

Sarcoptic mange has probably always been present in the fox populations on Cape Cod; however, the region appears to have been experiencing an epizootic event over the past four years. The impact is seen on many levels, with unexpected issues affecting wildlife rehabilitation. This presentation explores all the aspects of this event from the impact for wildlife, pet dogs, and human welfare to species level issues and a novel treatment.

A New Approach for Treating Avian Botulism

Marie Travers Bird Ally X, CA mt@birdallyx.net

January Bill, Bird Ally X, CA

In August and September 2018, Klamath Basin National Wildlife Refuge Complex responded to an avian botulism (*Clostridium botulinum*) outbreak that affected thousands of birds. Bird Ally X (BAX) was contacted shortly after to manage the rehabilitation of live birds collected. When staff initially arrived at the remote field outpost, there were already birds on site and few supplies available. With a response staff of two, support from refuge staff, and the assistance of volunteers and interns, BAX staff were able to create a functional wildlife hospital and treated 474 birds, successfully releasing over 80% of patients that survived the first 24 hours. This required modifying standard botulism treatment plans to a more hands-off approach where birds were allowed to self-hydrate in pools. This system proved extremely successful and resulted in reduced handling and stress for patients and a more manageable workload for staff.

Avian Session—Ballroom E

Sponsored by Tri-State Bird Rescue & Research

(TBA)—Moderator

Can You Outsmart the Corvid in Your Care?

Elaine Friedman, Corvid Connection, CA corvidconnection@aol.com

Corvids!?! Intelligent, resourceful, not so easy to rehabilitate. This lecture highlights the habits and natural history of the crows, ravens, magpies, and jays that you might encounter in your work as a rehabilitator. It also familiarizes you with the pitfalls of caring for the various corvid species.

Raising Orphaned Wood Ducks

Judy Neiman, TreeHouse Wildlife Center, IL woodducki@sbcglobal.net

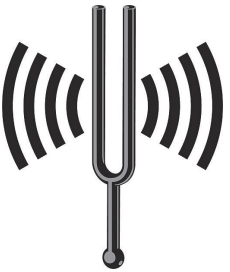
Adele Moore, TreeHouse Wildlife Center, IL treehouse.adele@gmail.com

Raising orphaned wood ducks (*Aix sponsa*) presents its own special set of problems. Wood ducks are very nervous and can be reluctant eaters. If conditions are not exactly perfect, they will not settle down and eat and many simply starve to death. Over the past eighteen years, TreeHouse’s wood duck release rate has consistently averaged around 80%. The initial setups are inexpensive and easy to clean, move, and store. This presentation covers basic husbandry procedures only. No medical treatments or procedures are addressed herein.

The Use of Tuning Forks to Aid Post-operative Physical Therapy in Raptors

David Scott, DVM, Carolina Raptor Center, NC dscott@carolinaraptorcenter.org

Tuning forks can be used as an adjunct to traditional physical therapy in orthopedic cases. Low-frequency energy is applied via mechanical vibration and is similar to the use of therapeutic ultrasound or cold laser therapy. Fifteen cases in various raptor species with humerus fractures were included in this study. Traditional passive range-of-motion (ROM) exercises were augmented with a 128 Hz tuning fork. ROM was scored both subjectively and objectively with angles of extension recorded during each session. Of the 15 cases, 10 (67%) were noted to have probable or definite improvement after the tuning fork therapy was begun.



Ambassador Roundtable—Ballroom F

Sponsored by Michele Goodman and Elaine Thrune (co-sponsors)

Diane Nickerson—Moderator

Selection of Education Ambassador Roundtable

Jackie Kozlowski, Tracy Aviary, UT jackiek@tracyaviary.org

Gail Buhl, Partners for Wildlife, MN gailbuhl@umn.edu

Melissa Moore, New Mexico Wildlife Center, NM melissam@newmexicowildlifecenter.org

Debbie Sykes, Nashville Wildlife Conservation Center, TN schult.debbie@gmail.com

Although it is often overlooked, selecting appropriate candidates for education ambassadors is one of the most important steps in successful programming using live animals. This roundtable is an open discussion of the animal welfare concerns and considerations involved in making this important decision, with a focus on target species, and evaluating individuals. There is also a special focus on the suitability of owls as ambassador candidates.

Friday, March 8th

Friday Morning

Turtle Workshop—Salon 2

Turtle Workshop

Mark Mitchell, DVM, MS, PhD, DECZM, Louisiana State University Veterinary Teaching Hospital, LA mmitchell@lsu.edu

This hands-on workshop provides participants with an overview of basic turtle rehabilitation skills, including how to complete a thorough physical examination, develop a differential list, and institute appropriate therapy. Specific reviews of infectious diseases of chelonians, therapeutic planning (fluids and other medications), and nutrition for captive chelonians (esophagostomy tubes) are discussed.

Education Session—Ballroom D
Leslie Lattimore—Moderator

Educational Superpowers: Designing Custom Programs

Amanda Wrigley, WildCare, Inc, IN awrigley@indiana.edu

Create unique, dynamic, and interactive programs to match the current needs of your community. Learn simple techniques to create programs that are more appealing for schools, adaptable for various ages, and have a quantifiable impact which makes them attractive to potential donors. This system also allows you to track the educational components of each presentation and adapt them to offer multiple versions of each program. Return year after year and surprise the same audience by offering a completely new version (including activity) of the same subject. Best of all, reduce the stress for your presenters and make your programs fun at the same time!



Making Wildlife Education More Impactful

Debbie Sykes, Nashville Wildlife Conservation Center, TN schult.debbie@gmail.com

As wildlife educators, we can make a greater impact with a more hands-on approach. Students become immersed in a creative way, making wildlife education personable, and the lessons more memorable. Learn what all of this means, how to come up with activities, how to organize the lessons and make them marketable for schools, and discuss ideas to create the most impact.

Education Obstacles, Tips, & Rewards

Elaine Friedman, Corvid Connection, CA corvidconnection@aol.com

An education program today involves contracts, insurance, fingerprinting, plus necessary tools to hold each student's attention. Our goal as educators is to make a lasting positive impression helping the public to coexist peacefully with their wild neighbors. This lecture gives insight into creating programs that both engage and satisfy grade level requirements through the use of props, mounts, puppets, photography, storytelling, and succinct appearances by wildlife ambassadors directly related to the subject matter discussed.

Camps for Kids: Day Camps for Humane, Wildlife, & Environmental Education

Alexis Fitzgerald, Humane Animal Rescue, PA afitzgerald@humaneanimalrescue.org

Many people think nostalgically back to when they went to summer camps. This presentation discusses the ways to start a camp at your facility. Camps are an excellent way to educate the next generation of animal protectors. During the last four years, Humane Animal Rescue has increased their camps to include eight weeks of camp plus day camps for more than 100 participants. Learn about teaching and activity space needed, schedule and lesson planning, and how to build a network of participants. Camps can take place at any time of the year, can last from one day to more than one week, and can quickly become an income generating program.

Celebrity Patients: Turning a Communications Burden into a Benefit

Anita Moos, Tri-State Bird Rescue & Research, Inc., DE amoos@tristatebird.org

In August 2018, Tri-State Bird Rescue & Research received an eaglet from Washington, DC that had been watched for months by thousands of viewers on an online nestcam. The bird arrived in poor condition and was euthanized within a week, even though media had initially reported the eaglet would be returned and released. This presentation covers the highs, the lows, the pitfalls, and tips on how to navigate social media and how to manage your messaging when caring for a high-profile patient. In the end, Tri-State received a lot of positive feedback, exposure, and financial support with this case.

Mammals I Session—Ballroom E
Sponsored by Oaken Acres Wildlife Center
Nicki Rosenhagen, DVM—Moderator

Over-wintered Flying Squirrels: Lessons Learned

Peggy Popp, WI peggy2.423@gmail.com

This lectures highlights lessons learned from over-wintering eight juvenile southern flying squirrels and includes post-release observations.

Cottontails: Commonly Admitted, Uncommonly Complicated!

Karen McKenzie, Fellow Mortals Wildlife Hospital, WI karen@fellowmortals.org

Cottontails! One of the hardest species to rehabilitate, yet for many, the most common species admitted for rehabilitation. This interactive session needs you! Please come willing to share your experiences and learn from each other. Discussion follows a loose session plan to ensure we can cover the topics most important to cottontail rehabilitation, including nutrition (formula choices, weaning diets, probiotics and other supplements, feeding techniques); diarrhea (causes, prevention, treatments); and special considerations of neonates.

Cost Efficient Enclosure to Enhance Behaviour & Welfare of Red Foxes

Cale Matesic, University of Guelph, ON cmatesic@uoguelph.ca

Design, construction, and testing of a new enclosure to enhance behaviour and welfare of red foxes was conducted in the winter, spring, and summer of 2017. Four red foxes were chosen in the testing of the enclosure to see its effectiveness. Analysis of structural materials was conducted and decided upon based off of price, properties, ease of acquiring, and safety for the animals. Structural integrity showed no signs of weakness and the foxes had no dependency on humans. The analysis suggests that further testing is required in order to cement the findings presented as each set of foxes are different.



Captive Rearing & Rehabilitation of North American Foxes

Lisa Fosco, Walden's Puddle, Wildlife Center of Greater Nashville, TN LisaCFosco@aol.com

Fox kits are very commonly admitted to wildlife rehabilitators in North America. This presentation discusses successful methods for rearing them in captive care. Natural behavioral development is emphasized as this is critical for post-release survival in these species. Topics include neonatal concerns, diet and feeding, housing, husbandry, medical considerations, and release criteria.

Wild Fostering Endangered Mexican Gray Wolves

Regina Mossotti, Endangered Wolf Center, MO rmossotti@endangeredwolfcenter.org

Kim Rutledge, Wildlife Rescue Center, MO krutledge@mowildlife.org

Presenters discuss cross-fostering (wild fostering) of critically endangered, captive-born wolves. The focus includes the partnership between Endangered Wolf Center and Missouri Wildlife Rescue Center and the logistics involved in transporting four critically endangered, 10-day old wolf pups from St. Louis to wild Mexican wolf packs in New Mexico and Arizona in the first ever double foster.

Veterinary Session—Ballroom F
Sponsored by Judi and Bruce Goodman
Renee Schott, DVM—Moderator

The Role of Veterinarians in Improving Animal Welfare in Wildlife Rehabilitation
Julia Ponder, DVM, MPH, The Raptor Center, MN ponde003@umn.edu

Ensuring the best possible animal welfare in wildlife rehabilitation requires a strong partnership between wildlife rehabilitators and the veterinarians with whom they work. The individuals in these groups run the gamut from incredibly knowledgeable and experienced to well-intentioned with limited knowledge. Veterinarians are often unaware of their role in the regulatory process and unfamiliar with where to find assistance in clinical wildlife medicine. This presentation describes a model for improving welfare for wildlife in rehabilitation.

Care of the Emaciated Patient
Leslie Reed, DVM, Wildlife Rehabilitation Center of Minnesota, MN leslie@wrcmn.org

Caring for an emaciated patient is much more complex than just offering food and encouraging rapid weight gain. An emaciated state is considered critical, and the animal must be properly rehydrated and electrolyte and other hematologic abnormalities corrected before introducing a full diet. This lecture discusses how to properly assign a body condition score, assess and correct the level of dehydration and electrolyte imbalances, and prevent the occurrence of re-feeding syndrome. How to choose a proper elemental diet is discussed, as well as how to determine the need for an esophageal feeding tube. Avian, mammal, and reptile species are covered.

Contagion and Highlighted Biosafety Principles in Rehabilitation
Julia Whittington, DVM, University of Illinois College of Veterinary Medicine, IL jkwhitti@illinois.edu

Avian Influenza, New Castle's Disease, Plague, Pox, Canine Distemper...and the list goes on. Infectious diseases are inherent in wildlife rehailitation, as many wild patients are affected by or carry these pathogens. Understanding disease transmission and preparing for the introduction of a potential pathogen into your center is of utmost importance for biosafety and biosecurity. This interactive session illustrates the times during case management when simple biosafety measures can have a big imparct on infectious diseae prevention. Attendees are guided through a series of decisions to determine patient outcome and learn about effective biosafety for wildlife centers.

Avian Anesthesia & Analgesia
Kimberly McMunn, DVM, Tippecanoe Animal Hospital & Wildcat Creek Wildlife Center, IN dr.k.mcmunn@gmail.com

Wildlife rehabilitators with the proper federal permits are often presented with injured birds. We recognize that birds are not dogs and cats, and therefore require specialized protocols for anesthesia and analgesia. This talk covers recent research on anesthesia and analgesia in birds, with a focus on a multimodal approach. Rehabilitators need to work closely with veterinarians to provide the best care for their wild bird patients.

A Retrospective Look at Outcomes of Raptors with Spinal Trauma
David Scott, DVM, Carolina Raptor Center, NC dscott@carolinaraptorcenter.org

Spinal trauma is common in raptors admitted to rehabilitation centers. The prognosis for these cases depends on many factors and standard diagnostic testing is typically not helpful. Identification of any risk factors is crucial for the proper management and triage of these cases. This study attempts to identify factors associated with outcome, which was highly correlated with severity of clinical signs. A simple scoring system (scores ranging from 1 to 3) was developed that can be effectively used to predict the outcome. Choosing appropriate cases to treat can help minimize suffering and maximize use of limited resources.

Gross Pathology of Herons & Egrets (family *Ardeidae*) at a Wildlife Rehabilitation Center in Northern California
Molly Horgan, UC Davis School of Veterinary Medicine, CA mdhorgan@ucdavis.edu

Gross necropsies were performed on all 145 herons and egrets that died or were euthanized at a California wildlife rehabilitation center over a 6-week period in the summer of 2018. Common findings included metabolic bone disease, *Eustrongyloides* nematodes, and visceral gout. All 10 birds that died with gout were either receiving or had received the NSAID meloxicam. This finding suggests meloxicam may cause acute renal failure leading to death in these species. Other findings included joint infections, intestinal perforation, hepatomegaly, and aspergillosis. This study describes the gross findings and demonstrates the utility of gross necropsies in determining cause of death.

Friday Afternoon

Post-release Monitoring of Oiled Wildlife: Novel Technologies Workshop—Ballroom A

Post-release Monitoring of Oiled Wildlife: Novel Technologies Workshop
Kyra Mills, UC Davis Oiled Wildlife Care Network, CA kyparker@ucdavis.edu

Technology has come a long way since scientists first started using transmitters and data loggers 40+ years ago. This workshop provides an overview of the types of devices currently on the market, considerations for choosing the right equipment, and what information each unit can provide for monitoring rehabilitated oil spill patients. We also discuss different attachment methods and placement locations, including their pros and cons. This expert-led workshop is an informative and hands-on experience and is beneficial to participants ranging from little-to-moderate experience with monitoring devices, as well as those who simply wish to hear about what is new and “cool” in the gadget world.

Training Ambassadors—Ballroom D
Jeff Meshach—Moderator

From Rehabilitation to Ambassador: Choosing, Training, & Maintaining
Lori Bankson, City of Green Bay, Bay Beach Wildlife Sanctuary, WI Loribankson@gmail.com

Animal ambassadors are wonderful opportunities to teach about rehabilitation. Not every non-releasable rehabilitation patient makes a good ambassador, but some patients are perfect candidates and can be excellent co-workers with you. Learn how to choose proper candidates, different rules and regulations to consider with having ambassadors, basic training techniques, evaluation techniques, and long-term considerations. Discussion includes mammals and reptiles. This presentation can benefit all rehabilitators!

Food & Weight Management in Birds
Paige Davis, World Bird Sanctuary, MO pdavis@worldbirdsanctuary.org

Managing the food or weight of a bird is a useful tool to create motivation and shape behaviors. Learn about these management practices paired with the use of positive reinforcement training to improve the everyday lives of birds in captivity. Through careful management, the trainer is able to create a motivated, healthy, empowered animal. Topics include: how and when to deliver food, how food type can affect training, finding a healthy weight range for a highly motivated animal, factors affecting weight, and how to continuously evaluate and modify the weight of an individual.

Letting Go of the Leash: Empowering our Education Birds
Jackie Kozlowski, Tracy Aviary, UT jackiek@tracyaviary.org

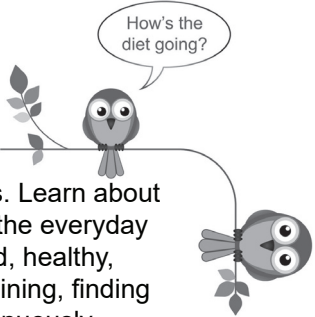
Recent science data supports that choice is a primary reinforcer and giving our birds power over their environment is invaluable in creating trusting relationships and confident individuals. This talk not only covers the beneficial consequences of empowering our education ambassadors but also looks at ways that we as trainers can set up the environment for the desired choices to be made.

It's All About Choices
Melissa Moore, New Mexico Wildlife Center, NM melissam@newmexicowildlifecenter.org

Bald eagles are challenging subjects for training and use in education programs. This presentation details the training of one ambassador eagle through its many challenges as we successfully prepared it for education programs both on- and off-site. We talk about what worked and what did not work, and the lessons we learned along the way that made us better trainers and handlers for all of our ambassador animals.

Revamping Your Wildlife Education Program
Debbie Sykes, Walden's Puddle, Wildlife Center of Greater Nashville, TN schult.debbie@gmail.com

Have you been inspired by Gail, Jackie, and Melissa's “empowering the animal” talks? Want to go back home and change everything your facility does, in order to keep up with the best-practice changes happening in the animal training field? Dive into what it really looks like to change your facility, techniques, mindsets, misconceptions, and discuss the outcomes so far.



Diets, Nutrition & Radiology Session—Ballroom E
Sponsored by PetAg
Carla DeRousse—Moderator

Diet Doctors: Practical Skills for Treating Malfunctioning Diets Workshop Lecture
Stephanie Herman, Audubon Society of Portland, OR sherman@audubonportland.org

Good nutrition impacts all aspects of our patients' health and well-being and is a cornerstone on which high-quality animal care is built. As wildlife professionals, we face challenges designing and assessing nutritional programs due to our patients' incredibly varied (and often understudied) natural histories. Since we can rarely fully replicate wild foods and feeding methods, we must create alternatives and then depend on our own judgment and assessments to determine the success of our practices. This lecture provides an opportunity to review the basic tenets of wildlife nutrition and feeding and discusses theoretical approaches to the assessment and improvement of existing feeding practices. This lecture is a prerequisite for the Diet Doctors workshop.



Wild Foods Risks 4 Wildlife
Kate Guenther, Wild Foods 4 Wildlife, VA wildfoods4wildlife@gmail.com

There are very good reasons why you might want to be that rehabilitator who takes the care and effort to incorporate foraged wild plant foods into your patients' diets. Yet there are serious risks associated with the top 50 wild plant foods that are eaten by wildlife—toxicological risks such as cyanide, nitrate, maple, or oxalate toxicities. Discussion covers where the greatest hidden risks might catch a rehabilitator off-guard, reasons why wild animals in captivity may be more susceptible to these plant poisonings, and reasons they stand to benefit from the increased use of natural comfort foods.

Farm-to-Cage Feeder Animals
Jordan O'Hara, Grey Snow Eagle House, OK JO'Hara@iowanation.org

One of the biggest challenges facing wildlife rehabilitators is providing patients with a healthy and balanced diet. Purchasing frozen feeders online is convenient but comes with issues such as businesses going under or being out of stock, care and health of the feeder animals, high shipping costs, and difficulty in obtaining prey for live training. The Grey Snow Eagle House has found it easier and more cost-effective to breed and raise feeder animals for the 65+ raptors in our care. This presentation provides a thorough overview of how we breed, raise, and care for quail, mice, rats, and rabbits.

Avian Radiographs 101
Nicki Rosenhagen, DVM, Progressive Animal Welfare Society, WA nrosenhagen@paws.org

This interactive lecture reviews basic radiographic anatomy of birds to identify common lesions, including fractures, luxations, metabolic bone disease, bone infections, and soft tissue inflammation.

Mammals II Session—Ballroom F
Sherri Cox, DVM—Moderator

River Otter Medicine
Heather Barron, DVM, CROW, FL hbarron@crowclinic.org

River otters can be challenging patients that may present with a variety of maladies. In this lecture, appropriate medical and rehabilitative care is discussed, with a focus on parasites of significance (including *Dirofilaria* sp, *Dracunculus* and *Crenosoma*), preventative medicine, trauma management, anesthesia and analgesia, and care of orphans. Video is used liberally to help elucidate more difficult procedures and Poll Everywhere used to help ensure audience engagement and understanding.



Captive Rearing & Rehabilitation of Striped Skunks (*Mephitis mephitis*)
Lisa Fosco, Walden's Puddle, Wildlife Center of Greater Nashville, TN LisaCFosco@aol.com

This presentation discusses natural history as well as simple and successful methods for rearing striped skunks, one of the more common rabies vector species admitted to North American rehabilitators. Topics include diet and feeding, housing, husbandry, behavioral and developmental considerations, release criteria, and a discussion on legislation and legalization considerations.

Raising Orphaned Weasels & Mink
Peggy Popp, WI peggy2.423@gmail.com

This talk discusses the natural history, care protocols, pre-release conditioning, and release techniques for orphaned weasels and mink, illustrated by pictures and video featuring adorable young mustelids. As time allows, "lessons learned" and post release studies are shared, as well as information about farmed/domestic mink vs wild mink.

Dental Examination & Pathologies in the Mammal Patient
Leslie Reed, DVM, Wildlife Rehabilitation Center of Minnesota, MN leslie@wrcmn.org

The dental examination is a crucial and oftentimes overlooked part of the wild mammal physical exam. Functions of mammal teeth are numerous, and a healthy mouth is imperative to survival in the wild. This lecture discusses the importance of healthy dentition, and also describes how to efficiently and safely perform a thorough dental exam, how to count and classify teeth, and how to recognize common dental pathologies. Treatment and euthanasia recommendations are also discussed.

Saturday, March 9th
Saturday Morning

Diet Doctors Workshop—Ballroom F

Diet Doctors Workshop
Stephanie Herman, Audubon Society of Portland, OR sherman@audubonportland.org

Good nutrition impacts all aspects of our patients' health and well-being and is a cornerstone on which high-quality animal care is built. As wildlife professionals, we face challenges designing and assessing nutritional programs due to our patients' incredibly varied (and often understudied) natural histories. Since we can rarely fully replicate wild foods and feeding methods, we must create alternatives and then depend on our own judgment and assessments to determine the success of our practices. The scenario-based workshop provides the opportunity to exercise practical skills and decision-making in a supportive and collaborative environment.

RACE Approved Veterinary Seminar—Ballroom A
Sponsored by Orphaned Wildlife Rescue Center (OWRC)
Erica A. Miller, DVM—Moderator

RACE Approved Veterinary Seminar
Julia Ponder, DVM, MPH, The Raptor Center, MN ponde003@umn.edu
Mark Mitchell, DVM, MS, PhD, DECZM, Louisiana State University Veterinary Teaching Hospital, LA mmitchell@lsu.edu

This eight-hour seminar is limited to licensed veterinarians and veterinary technicians. Discussion includes nutritional considerations for hospitalized reptiles, environmental toxicants in raptors, emerging infectious diseases of North American reptiles, avian anesthesia and analgesia, reptile anesthesia and analgesia, and avian orthopedics. A hands-on lab focuses on orthopedic repair of the avian pectoral limb. Limited enrollment, advanced registration required.



Bat Rehabilitation Seminar—Salon 2

Insectivorous Bat Rehabilitation Seminar

Renee Schott, DVM, Wildlife Rehabilitation Center of Minnesota, MN renee@wrcmn.org
Gail Buhl, Partners for Wildlife, MN gailbuhl@umn.edu
Laura Stastney, Nebraska Wildlife Rehab, Inc., NE info@nebraskawildliferehab.org



This interactive five-hour seminar encourages participation and discussion. All aspects of bat rehabilitation are covered from the basics to advanced techniques. By the end of the laboratory, participants should be familiar with bat anatomy, be comfortable identifying bat species using a dichotomous key, have practiced doing a physical exam on a bat, be able to give subcutaneous fluids, and practice handling and bat restraint on cadavers. Midwest species are the focus of this seminar. Proof of rabies vaccine or protective titer required within two years of March 9, 2019. Limited enrollment, advanced registration required.

General Rehabilitation Session—Ballroom E
Sponsored by PetAg
Lacie Jett-Ricketts—Moderator

Overcoming the Human Factor: Optimizing Outcomes in Wildlife Rehabilitation

Michelle Willette, DVM, MPH, DACVPM, The Raptor Center, MN wille203@umn.edu

Wildlife rehabilitators admit more than 500,000 wild animals annually. A significant number of animals are non-releasable and need to be euthanized. Due to physical, behavioral, or management limitations, only a few non-releasable wild animals are appropriate for captive placement. Animal welfare is improved when veterinarians and wildlife rehabilitators work together to diagnose, treat, and when appropriate, euthanize or place animals. Best practices and evidence-based medicine should be the basis for decision criteria, supported by appropriate regulatory policy. Developing tools can aid in the decision-making process for wildlife rehabilitators, strengthen the relationship between rehabilitators and veterinarians, and provide guidance to regulatory authorities in creating policy.

Swifts, Hummingbirds, & Mice, Oh My! Rehabilitation of (Not So) Tiny Proportions

Stephanie Ellis, Wild Care, Inc., MA stephanie@wildcarecapecod.org

They are some of the smallest patients we see, yet the most challenging for which to care. This lecture shares successes and challenges of the rehabilitation of orphaned chimney swifts, white-footed mice, and ruby-throated hummingbirds. Discussion includes diet, common ailments, and husbandry and release guidelines, while hopefully making the rehabilitation of these native species less daunting. This fun and informative talk leaves participants feeling prepared to take on the tiniest of patients when they arrive this summer.



The Final Step: Ideas to Create a Stress-free Release

Emily Meredith, PAWS Wildlife Center, WA emeredith@paws.org

Wildlife releases are the final step and with some species, it can be quite a challenge. Healthy wild animals such as deer, bobcats, and river otters can be difficult to contain and release without causing additional stress and potential injury to the animal. This presentation shows some creative ways PAWS has created to overcome the complexity of capturing these animals. With these methods, we have eliminated the need for manual restraint during the capture and have reduced the animal and human stress that comes with the task of capturing wildlife for release.

Behavioral Aspects & Assessments in Rehabilitation

Lynn Miller, PhD, South Florida Wildlife Center, FL mbeland@securenet.net
Matt Anderson, Fund for Animals Wildlife Center, CA manderson@fundforanimals.org

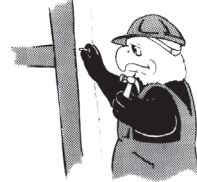
“Careful, it will get imprinted!” We often hear this phrase, yet do we understand what it means? Or, “Don’t allow those squirrels to get too friendly. They will never become wild animals if you do!” This lecture explores imprinting, innate behavior, and learned behavioral components such as habituation and adaptive behavior. Discussion also addresses differences in species to reduce long-term or permanent abnormal behavioral shifts, while encouraging behaviors that help our patients recover faster. Additionally, the lecture focuses on understanding what constitutes different stages of early behavioral development and/or recovery prior to release. The main challenges we face are born from the fact that some behaviors are easy to determine whilst others are more subtle. Specific cases are cited and behavioral scoresheets provided to aid in this process to maximize release success.

Aerial Wildlife Rescues

Jayanthi Kallam, Avian and Reptile Rehabilitation Trust, Karnataka, India arrcindia@gmail.com

Wildlife (mainly birds and bats) often gets stuck on trees or dangle from electric wires, cables, and cellular towers. These rescues are often complex and involve meticulous planning due to the potential high-risk to the rescuer and the animal being rescued. Our organization uses a variety of low-cost rescue equipment and developed protocols to ensure safe retrieval of wildlife needing aerial rescues. We present several case studies of aerial rescues we conducted in Bangalore, India and share the triage and rehabilitation process we follow before repatriating them back to the wild.

Raptor Session—Ballroom D
Sponsored by APLIC
Maggie McCartney—Moderator



Rehabilitation Research Enhances Understanding of Raptor Ecology

Travis Wilcoxon, Millikin University, IL twilcoxon@millikin.edu

Birds of prey represent a common type of animal in wildlife rehabilitation facilities, but their inclusion in ecophysiology research is uncommon. Since January 2014, the Illinois Raptor Center (IRC) and biology faculty from Millikin University have collaborated to use physiological research to enhance rehabilitation efforts. The rehabilitation research led to questions about raptor ecology and the value of sampling the hundreds of birds admitted to the IRC annually. Our collaboration improved rehabilitation and generated new insights into ecotoxicology, stress physiology, and wildlife disease.

Principles of Raptor Cage Design Update

Adele Moore, TreeHouse Wildlife Center, IL treehouse.adele@gmail.com

Constructing a cage for raptors in rehabilitation requires planning to ensure the cage contains all the components required for training raptors for release. The author developed a checklist of what is needed in both the planning and construction stages. In 2015, TreeHouse designed and completed a Raptor Rehabilitation Complex in which most of the birds’ rehabilitation stages are conducted under one roof with maximum flexibility. With any new cage design there are elements that work, and some that do not. A recap of the original design is followed by subsequent corrections.

“Nestcue”: Renesting Birds of Prey

Jacques Nuzzo, Illinois Raptor Center, IL jacknuzzo@gmail.com

“Nestcue” (nest - rescue) is the name that the Illinois Raptor Center has given to the method of putting young birds of prey back into nests or rebuilding nests for the parents. We use high angle rope techniques used in the recreational tree climbing world to access the canopy and have developed a protocol for how, when, and why to renest. In addition to installing nests and nest boxes, we also place video recording devices and retrieve the footage later to give us insight on feeding habits and success of the Nestcue. The Illinois Raptor Center has a very high success rate with this program.

The Raptor Rehabilitation/Falconry Interface: Synergy for Release

Laura Edmunds, Indiana Raptor Center, IN baywing4295@sbcglobal.net

Supplemental falconry training can positively affect (and is sometimes essential to) post-release survival of large falcons, merlins, golden eagles, and special-circumstance buteos, accipiters, and owls. To help determine which raptors benefit most from a falconer’s pre-release training, we suggest candidate identifiers, including age, species natural history, precipitating circumstances, and target habitat. Also discussed are recent changes in regulations that encourage falconers to assist rehabilitators, and ways we can improve the rehabilitator/falconer relationship by mutual understanding of history and common goals.



Continuing Your Care: The Importance of Sending to Feather Repositories

Crystal Sharlow-Schaefer, Wisconsin Humane Society Wildlife Rehabilitation Center & Native America Humane Society, WI csharlow@wihumane.org

Feathers are necessary for religious and ceremonial use by Native Americans. Sending feathers to feather repositories helps prevent black-market trade, while also saving other wild birds. Learn from the informed perspective of a seasoned wildlife rehabilitator who is also a tribal member. Discussion includes clarification on regulations as well as tried-and-true practices that make sending feathers a cathartic experience for the rehabilitator, allowing you to honor the lives of birds that do not survive rehabilitative care while also respecting their cultural significance to Native Americans. This presentation focuses on non-eagle feather repositories but will also touch on the Federal Eagle Repository.

Saturday Afternoon

One Health Session—Ballroom D
Jenny Schlieps—Moderator



Use of Medications & Vaccines: A One-Health Approach
Ernesto Dominguez, DVM, Wildlife Center of Virginia edominguez@wildlifecenter.org

Medicines and vaccines have an important role in the prevention and treatment of disease in humans and animals. However, it is because of their benefits that medication use in animals may also have unintended effects on wildlife, humans, and the environment. Pharmaceutical compounds are designed either to be highly active and interact with receptors in humans and animals or to be toxic for many infectious organisms, including bacteria, fungi, and parasites. But this does not mean that the compounds only affect these living forms. Judicious use of medications is a responsibility of rehabilitators, veterinarians, biologists, and physicians. A single dose of ivermectin can be more harmful than beneficial to an individual and the environment.

Antimicrobial Stewardship in Wildlife Rehabilitation
Theresa Knoblock, Cummings School of Veterinary Medicine at Tufts University, MA Theresa.knoblock@tufts.edu

With increasing antibiotic resistance, judicious use of antibiotics is ever more important. This presentation aims to discuss how to triage patients and justify use of antibiotics. It will cover the most likely pathogens in common presenting injuries, how to perform simple in-house diagnostics to guide antibiotic use, and briefly discuss the overall implications of antibiotics entering the food chain.

Antimicrobial Resistance in Wildlife
Karra Pierce, DVM, Wildlife Center of Virginia, VA kpierce@wildlifecenter.org

The development of antimicrobial resistance is of increasing global concern for both human, domestic animal, and wildlife diseases. Judicious use of antimicrobials is paramount to maintain efficacy. Bacterial culture and sensitivity is the gold standard method to diagnose and treat bacterial infections, however, in a wildlife rehabilitation setting, infections are commonly treated empirically with antimicrobials. In this retrospective study, we reviewed culture and sensitivities performed at the Wildlife Center of Virginia over 10 years to determine common anti-microbial resistance profiles, which will help to guide empirical therapy.

The Ripple Effect: Water Quality & Wildlife Health
Heather Barron, DVM, CROW, FL hbarron@crowclinic.org

This talk highlights the effects that environmental water quality has on One Health, with a focus on the impact on wildlife health. In conservation medicine—the interrelationship between human, environmental, and wildlife health—water quality is a common denominator that should concern everyone. Specifically, discussion includes harmful algal blooms, impacts on seabirds, and the latest research on how to better define and treat this problem. Additionally, this lecture covers endocrine disrupting chemicals (EDCs) and how they are impacting our wildlife.

General Rehabilitation II Session—Ballroom E
Molly Brennan—Moderator

WARNING: Toxic/Hazardous Substances Shall NOT be Used in This Workplace!
Lauren Caruso, PAWS Wildlife Center, WA lcaruso@paws.org
Emily Meredith, PAWS Wildlife Center, WA emeredith@paws.org

Newspaper, cardboard, dog toys, flowering plants—these items make excellent enrichment, right? What about petroleum, phthalates, cyanide, and lead? This interactive presentation covers both natural and artificial enrichment items and the ingredients that may be harmful to animals.

Re-Purposing Tri-State’s Oiled Wildlife Modular Cage Designs
Michelle Knapp, Tri-State Bird Rescue & Research, DE mknapp@tristatebird.org
Dennis Davis, Tri-State Bird Rescue and Research, Inc, DE badfdavis@comcast.net

Tri-State Bird Rescue & Research, Inc. has made improvements to its oiled wildlife caging to create flexible, multipurpose, lightweight, and inexpensive modular units. Re-purposing cages originally designed for oiled wildlife in temporary facilities for non-oiled patients has increased flexibility in small rooms in permanent buildings. Transitioning from the days of heavy wood, tarps, and metal to lightweight PVC, marine-grade vinyl, and knotless marine netting has led to improvements in medical care, husbandry, and overall cost. Follow the story that has led to these upgrades and modifications in Tri-State’s Wild Bird Clinic.

Building Bridges & Going to the Zoo
Halley Buckanoff, North Carolina Zoo VHS Wildlife Rehabilitation Center, NC nczoo.wildliferehab@nczoo.org
Kai Williams, The IWRC, OR director@theiwrc.org

Collaboration is critical to reaching our mission, whether it is between wildlife centers or reaching out to a government agency. Zoos, museums, schools, governments, B corporations, and non-governmental organizations all bring opportunities to help us help wildlife. Wildlife rehabilitators also have an untapped resource in zoos and aquariums. These institutions are continuing to move toward a conservation action mission. Not only can they help provide permanent placement, but they are also ensuring the most cutting-edge care from veterinary medical innovations to husbandry and nutrition. Learn methods to initiate collaboration and see examples of collaborations in action.



Evaluations

Yes, we really do read these!

Please take time to complete evaluations of your Symposium 2019 experiences. Your evaluations and comments are used to understand the attendees' experience, make changes, and generally advise NWRA on improving future Symposia planning. Links to evaluate your experience, the speakers, events, and all things Symposium are under the Evaluation icon on the attendee app, posted on the NWRA website, and on the Symposium 2019 group page.

Evaluation links are available March 4 - March 31, 2019.

Attendance Certificates

All attendance certificates are available only online. There are separate certificates for general attendance, seminars, and workshops. You can view, print, or download your certificates by logging into your profile and clicking Professional Development under Manage Profile. Nonmembers have temporary access to login to their profile on the NWRA website until June 1, 2019. If you have trouble accessing your certificates after the Symposium, please contact the NWRA Central Office Staff.

Invitation to Present

Inspired by the talks and posters at Symposium 2019?

Consider giving a talk, presenting a poster, or leading a roundtable discussion at Symposium 2020. The program committee begins accepting abstracts for workshops online March 4th through May 1st 2019 for the 2020 program. Abstracts for lectures can be submitted starting in June, so look for the member email announcement around that time!

Handouts

Handouts received from speakers, including workshop materials, are available online from March 5 through June 1, 2019.

Reuse or Recycle

Please share this program book and other symposium materials with others, or recycle them appropriately!

NOTES