

BAT WORLD

Conservation - Rescue - Sanctuary



2019 ANNUAL REPORT

Bat World

Conservation, Rescue, Sanctuary



Ronan, an orphaned African fruit bat, was hand-raised by Bat World's Moriah Adams this year.

Read his story on page 8. Photo by Moriah Adams.

Printed on 20% recycled paper certified by the Sustainable Forestry Initiative, using 100% vegetable based ink.

NOTE: The articles in this magazine are written by the same humans who also care for the bats. Although we try very hard a few typos always seem to slip through. Please bear with us and overlook any mistakes.

The content in this publication was created by trained, vaccinated bat care professionals in possession of all appropriate licenses or permits. No statement or photo contained in this magazine should be construed as permission or recommendation to handle bats.

VOLUME 11, 2019 Annual Report

- 3 Year-end Letter
- 4 2019 Financial Accounting
- 5 Year-End Summary
- 6 2019 Rescues
- 32 Introducing Bat World Bulgaria
- 36 Rescues in Other Areas
- 37 Rescuing Other Species
- 38 Workshops
- 39 Educational Efforts
- 40 2019 Activism
- 46 Keeping Wild Bats Safe in Summer Months
- 48 Fundraisers and Expenses
- 50 Celebrating Bat Poop!
- 51 Batty Word Search
- 52 Letters
- 53 Loving Tributes
- 54 Sponsor a Bat in Need

PRINTED ANNUALLY. Want more updates than an annual printing? Sign up to receive our free Night Flight News at batworld.org



Bat World, Volume 11, 2019

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Bat World is published annually by Bat World Sanctuary, a 501c3 non-profit organization. Donations allow Bat World to continue its mission of rescue and conservation. To obtain more information about bats and how they make our world a better place please visit batworld.org.

To inquire about local rescue, make a donation, sponsor a bat, purchase merchandise or sign up for e-alerts, please contact us at:

Web: www.batworld.org
E-mail: sanctuary@batworld.org
Phone: 940-325-3404
Mail: Bat World Sanctuary, 299 High Point Road
Weatherford, TX 76088

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2019 Year End Letter

Dear Bat World Sanctuary Supporters,

This year has been outstanding in more ways than we can count. To start, we rescued a whopping 7,165 bats, several of whom are pet trade and zoo retired fruit bats who will receive lifetime sanctuary with us, along with over 50 non-releasable insectivorous bats rescued this year. Thankfully, the vast majority of bats were releasable and now fly free because of your support.

In January we began training two onsite assistant directors who have gone above and beyond to prove their dedication to the mission of Bat World Sanctuary. Having a committed staff to propel the organization forward in future years is critical to the survival of Bat World. On that same note we completed a new caregivers residence in May, so there is now housing for three onsite personnel. With over 370 animals receiving permanent sanctuary at Bat World, having onsite staff is critical in the event of emergencies such as a flood or fire.

In June we secured two new sources to purchase fruit in bulk at or below cost, which will save us thousands of dollars annually. In September we retired Bat World's former rescue vehicle and secured a fantastic deal on a new, safer and more economical rescue vehicle. Our new Honda Passport also has over 100 cubic feet of cargo space which allows us to carry large loads of fruit so we don't miss out on any deals.

In October we noticed a major erosion issue that was causing our back fence to warp and lean over. The walls of the facility also developed an alarming crack in one wall. Unfortunately, the stone boulders set in place to hold the dirt where the sanctuary was built did not include drainage. This issue was corrected with a new, massive stone wall that includes proper drainage, so the facility and yard are now safe from further damage.

For the many ways that we grow and move forward, nothing we accomplish could be done without our loyal donors. Everything we do, we do together. We provide the skill set but you provide the means. Our donors have always been and will always be the heartbeat of our organization. Without you, the shining beacon of hope that Bat World has become for so many bats, would cease to exist. We simply can't thank you enough for allowing us to continue.

Please help us save even more bats in 2020. Use the enclosed envelope, or contribute online through our "Donate Now" button at batworld.org. Any amount you send will be incredibly appreciated.

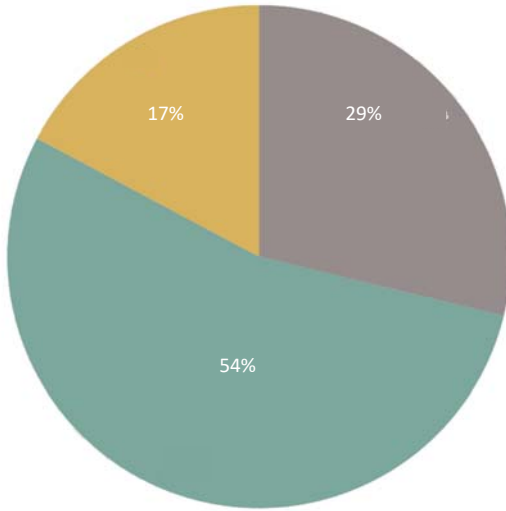
With sincere gratitude on behalf of all the bats we love so much,



Amanda Lollar
Founder and President

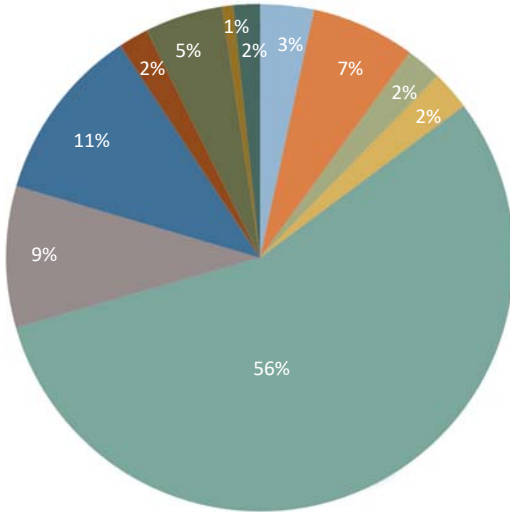
2019 Financial Accounting

Bat World 2019 Income



- Donations from the public
- Sales from batworld-store.org
- Commissions from workshops and educational awareness items

Bat World 2019 Expenses



- New caregivers residence, new rescue vehicle, critical repair on large erosion issue (page 49)
- Operational expenses*
- Employee payroll
- Professional Fees**
- Shipping, office & resale supplies
- Travel (rescues, conferences)
- International rescues***
- Printing and website services and fees
- Food and nutritional supplies
- Insurance
- Medical & veterinary supplies

*Utilities, maintenance, cleaning supplies and enrichment items.

**Professional fees include contractor, carpenter, bookkeeping and accounting fees.

***Donations raised for the purpose of helping Bat World Bulgaria (page 32) and the Peekaboo Rescue Fund (Protect People, Protect Bats. See page 40).

2019 Year-End Summary

Income

Donations from the public	\$145,787.38
Sales from bat-worldstore.org	\$46,387.51
Public awareness events & workshops	\$77,754.00

Expenses

Book/literature printing & website services & fees	\$7,190.16
Professional fees	\$8,185.00
*Shipping, office, resale supplies & program expenses	\$21,146.23
New caregivers residence, new rescue vehicle and expense on correcting large erosion issue	\$237,563.88
International rescues	\$14,592.25
Operational expenses	\$38,477.17
Food & nutritional supplements	\$28,210.05
Medical & veterinary	\$10,726.12
Travel expenses - rescues & conferences	\$2,993.10
Insurance	\$9632.75
Employee payroll	\$47,608.32

Total income **\$269,928.89**

Total expenses **\$426,325.03**

Note: Total expenses include savings we had in reserve from previous contest wins.

*Shipping, office, resale supplies and program expenses include ink, t-shirts, educational materials, shipping expenses and items needed to create our Adopt-a-Bat sponsorship packages.

Note: This accounting reflects 2019 through the third quarter; it does not reflect the entire year. Please see “Annual Reports” at batworld.org to view year-end IRS 990s.

2019 Rescues

Your contributions enabled us to save 7,165 orphaned, injured and displaced bats in the U.S., and over 360 internationally. Although a few of these bats were not releasable, over 6,500 bats now fly free because you bought their food, medicine, and housing, and you provided resources critical to our rescue efforts. The bats featured in this section represent a few of the lives saved through your support. For a complete list please visit batworld.org/rescue-log/



Laurie and Jessie, two female Egyptian fruit bats, came to us early in 2019 toward the end of the winter season. The girls were part of a small zoo in Michigan that decided to close their bat exhibit to make room for other exotic animals.

The enclosure where the bats were kept contained no enrichment and very limited flight space. When the zoo contacted us about taking the pair, we instantly agreed. As luck would have it, a warm front was passing through the area so we began making arrangements with Delta Dash to have Laurie and Jessie shipped to us the following day.

However, the following day the zoo called and stated they had instead decided to “give the bats away”. Alarmed that they were destined for the cruel, exotic pet trade, we called and pleaded with the zoo to relinquish the bats to one of our wonderful rescuers in the area, Laurie.

Thankfully, after several anxious conversations, the zoo conceded. The girls were soon safe in the hands of Laurie, who made a temporary habitat for them in her home with the help of Jessie, another volunteer. By the time the bats were safe, however, the warm front had passed and the temperatures were too cold to fly the pair to Texas. So, Bat World volunteer Larry caught the earliest flight to Michigan, rented a car, and drove Laurie and Jessie all the way back to Texas.

These girls were very close to being lost forever, but thanks to the wonderful people involved they are now safe and happy, with loads of enrichment and a lifetime of happiness ahead.



Upper Left: Laurie and Jessie on the night they arrived at Bat World Sanctuary. Above: The girls meeting their new forever family at Bat World. Their heads are marked green so we can easily identify them as they settle in.

STARLIE AND THE JAMMIES



Amanda Lollar

A 16 year-old Indian flying fox and five elderly Jamaican fruit bats, estimated to be in their 20s, were retired to Bat World Sanctuary from the Ellen Trout Zoo in Lufkin, Texas. The bats can no longer fly as they have arthritis and issues with their feet as well. Thankfully, with the help of our donors, we were able to build a tree-house (aka “geribatric ward”, pictured below) so these oldsters

can live their lives in comfort and in the company of other older bats.

Starlie (pictured above) was alone for several months before arriving at Bat World Sanctuary. She was confined after injuring both of her back feet to the point that she had no toenails and could no longer hang upside down. On the right she is pictured with one-eyed, 32 year-old Statler. Statler welcomed Starlie with “open wings” and showed her how to recline in a hammock so her toes could finally heal. We are happy to report at this writing that Starlie can now climb around well and may even move out of the geribatric ward if she so chooses. (Bats who have healed and no longer want to be in the geribatric ward are free to leave, and also go back inside, whenever they choose.)



Amanda Lollar

Above: two of the five zoo-retired Jamaican fruit bats sleeping in the fleece curtain, seen below.



Above: The Geribatric ward/tree house with the doors open. It measures 10' long x 2' deep x 2' high and hangs against the ceiling inside the flight enclosure with all of the other fruit bats. The older bats are prone to falling and prefer to lay in hammocks. The tree-house enables the older bats to remain safe while still staying in close contact with the younger, flighted bats.



BABY RONAN

Ronan, an African fruit bat, was born to a mother and father that were two of the 90 bats we rescued when OBC, a small zoo in Michigan, suddenly closed. Many elderly bats from that facility were transferred to Bat World Sanctuary. One of the older males, who would become Ronan's father, was in such bad shape when he arrived that we did not think it would be safe to anesthetize him so he could be neutered. We also did not believe he had the energy to reproduce, so he was left to live out his "golden years" intact. As it turned out, he had plenty of energy!

Enter baby Ronan, our precious little accident that was not supposed to happen. Ronan's mother, who was also rescued from the same facility,

arrived frightened, uncertain and in poor condition. When Ronan was born, the birth proved too much for her and she did not want to care for Ronan. Moriah, an extraordinary animal caregiver at Bat World, stepped in to be Ronan's human mom and hand raised him to be the spectacular bat he is today.

As Ronan grew, he was like a little monkey, reaching for everything in sight, including his human mom. He did not want to be away from his caregiver and would call to her whenever she was out of sight. Ronan was comforted by a "mommy roll", a special cloth roll with an attached blanket that wrapped around him. Mommy rolls give a baby fruit bat the security of feeling like he is nestled on his

mother's chest with her wing wrapped around him to keep him safe, secure and warm. These mommy rolls are made by a well-known bat rescuer on the other side of the world, Meg, also known as Battie Blue. As soon as Meg found out about Ronan, she sent half-a-dozen mommy rolls and special nursers just for him, all the way from Australia.

When Ronan was a juvenile, he was moved to the treehouse where the elderly bats at Bat World Sanctuary live in comfort. These oldsters taught Ronan how to be a bat by giving him affection and nurturing from his own kind. He was soon flapping his wings, eating fruit and no longer wanting milk formula. He eventually graduated to the expansive flight enclosure where the colony lives, and it is there he tested his wings for the first time. He crash-landed on the padded floor until he got the hang of it. After he learned to fly and become a "real bat", he never returned to the treehouse.

Today, Ronan only interacts with his humans when he is given special treats, which is just the way we want it. Bats are happier when they are loved and accepted by their own kind. Ronan spends his nights eating fresh fruit, playing with toys, and flying and gazing out to the great beyond from the safety of the outdoor flight enclosure - his large, luminous eyes taking in all he can see.



Nursers and mommy rolls sent to Ronan from Meg at "Battie Blue" in Memory of our beloved Peekaboo.



Amanda Lollar



Amanda Lollar

Middle: Ronan reaching for melon cubes while Statler reclines in a hammock. Bottom: Ronan stretching his wings in anticipation of flying.

Sully is a beautiful Egyptian fruit bat who was part of the exotic pet trade in Ohio. He was purchased, along with another male, by an ex-boyfriend of the woman who ultimately saved him. Sully's rescuer pleaded with her boyfriend not to purchase these poor creatures off the Internet, but her boyfriend wanted "exotic pets" in his living room. He never considered the emotional and physical needs of the bats. Sadly, the woman and her boyfriend had a cat who killed Sully's companion after he escaped the small cage where the bats were kept. This left Sully alone and living in constant fear of the cat.



Sully in his barren wire cage where he lived all alone and in constant fear of a house cat until he was rescued.

In February of 2019 the boyfriend left, thankfully leaving Sully behind. That is when we received an email from a kind young lady pleading for our help. We immediately agreed to rescue Sully and made arrangements to get him to Laurie, a bat care specialist in Michigan a short distance away. Because it was simply too cold to transport Sully to Texas in February, Sully remained with Laurie through the harshest part of the winter. Under the care of Laurie and her daughters, Sully finally felt safe. He received everything he needed, including hanging blankets, a heating pad, a hammock, toys, and plush "friends" that included a monkey that soon became Sully's best friend.



Left: Sully peeking out from behind his curtains after being rescued by Laurie. Right: Pictured is some of the enrichment Sully experienced while in the care of Laurie and her daughters, who named him and also delighted in spoiling him.



As soon as the weather warmed, Sully was flown to Bat World Sanctuary and his forever home. He was flown with his plush monkey to keep him company and give him comfort throughout the flight. Once at Bat World Sanctuary, his plush monkey was placed with him in a temporary holding enclosure within a few feet of his soon to be forever family. After Sully had a clean bill of health, he was marked with a temporary, non-toxic green paint so we could keep track of him as he settled in.

Sully quickly made dozens of friends of his own kind at Bat World Sanctuary. Instead of being alone in a tiny bird cage and in constant fear of a house cat, he now enjoys the freedom of a large flight enclosure with troughs filled with fresh fruit, mango, sweet potato, lettuce and melon kabobs, ropes to swing on and toys of every kind. He can enjoy an outdoor flight area where he can hear crickets and see the moon rise every night, and sleep peacefully snuggled with more friends than he can count. But even with all this, his plush monkey remains close by, just in case.



*Top: Sully with the plush monkey that became his best friend after he was rescued.
Center: Sully in his airline carrier, his plush monkey ever present. This photo was taken after he arrived on a flight from Michigan to Texas.
Bottom: Sully in his holding enclosure. His plush monkey was placed inside the enclosure with him.*

THE CAPTAIN



Amanda Lollar

The Captain on the day he arrived at Bat World Sanctuary

When the Houston Zoo contacted us asking to retire a beautiful, 16 year-old Indian flying fox, of course we said, "Yes." After learning we had two other Indian flying foxes, they wanted to send him to Bat World so he would not be alone. Their bat exhibit closed and their flying fox was the last to be placed in a different facility.

"Captain Majestic", as our wonderful vet named him, arrived in March of 2019. He was apprehensive on arrival with his eyes showing fear in not knowing his fate. He had not seen or heard other bats in quite some time, so we hoped the chatter of the other bats would calm him. The sound of the other bats, as well as our soft tones when we



Amanda Lollar

Tad Jarrett, DVM, getting to know The Captain on the day he was neutered.



The Captain in front, with Walter in the background. The Captain had never before been around his own species until he came to Bat World Sanctuary.

spoke to him, seemed to work. Within two days he was taking treats from our hands and seemed curious about his new surroundings.

After receiving a full health check, he was allowed to join the other bats and quickly made new friends, however, because he had never truly learned how to be with other bats, and had never seen another of his same species since he was born, he was a bit aggressive, chasing and swatting at other bats on occasion. To be on the safe side we covered his nails with vinyl nail caps made for cat claws so he could not injure any of the smaller bats. Bat caregiver, Addison McCool, decided pink would put a nice damper on his “he-man” demeanor.

Over the following months The Captain’s personality emerged and he became the sweet boy we always knew he could be. He is exceedingly happy in his new world. Roaming the large enclosure nightly to see what new fruits and juices will be found in the many areas where food enrichment is placed.

At Bat World, both the natural world and the simulated world collide in the best of ways. The bats have expansive flight enclosures to utilize their wings, with thickly padded floors so the bats do not get hurt if they accidentally fall. They are exposed to foliage and trees and protective cover but they also are provided with toys and vines made of rope and special nectar feeders as enrichment in a captive environment. It is so rewarding to watch him explore each night with bright, inquisitive eyes that no longer hold any fear, just pure happiness.



The Captain sporting his pink thumbnails



BUGSY



Left: Bugsy the day of rescue. Right: Bugsy the following day.

Bugsy is an adult female free-tailed bat who crawled out from behind a dryer at a laundry mat and luckily was spotted by a Good Samaritan, who called us right away. Bugsy was very thin and heavily pregnant and likely lacked the strength to fly because she was covered in mite eggs that completely adhered to her skin. The mites likely weakened her to the point that she could not sufficiently forage for insects so she became grounded.

Female bats have it particularly rough. At full term, their babies are about 1/3 the size of the mothers, which is the equivalent of a 120lb woman carrying a 40lb baby.

As her baby grows in the womb, the mother bat must eat twice her own weight in insects in order to provide sustenance for both herself and her unborn pup. For us, it's the equivalent of running a marathon every night while carrying a bowling ball that weighs 1/3 our own weight, and trying to eat dinner at the same time.

Sadly, little Bugsy's body could not take the stress and her pup was delivered stillborn a few days after she arrived. However, Bugsy made a full recovery after being treated for mites, and was released back to the wild two weeks later. She is now flying free, riding the world of insect pests.

Pickle is an evening bat who flew into the window of an off-duty police officer's car. The officer shooed her out, but she promptly flew back inside, this time landing inside the officer's gym bag. The officer called Bat World Mid-Cities, where it was discovered that little Pickle was very thin and a bit haggard and would not have survived in the wild much longer. Apparently little Pickle knew a good rescuer when she saw one.



PICKLE

FRED



Fred was saved by a homeowner who found him weakly clinging to her porch step. Fred was brought to Bat World Sanctuary where it was discovered he had wing-wasting syndrome, a condition that deteriorates the skin of the wings and leaves a bat unable to fly. Fred was weak, dehydrated and hungry when he arrived but has made a nice comeback with fluids, food, pain medication and antibiotics. Thankfully, this year we finally discovered what causes wing wasting syndrome as well as a cure for the condition. See page 41.

LEDECKY



Ledecky was found treading water in a kiddie swimming pool when it was being drained. She was very thin, which is evident from her skinny nose in the photo. An exam revealed wing wasting, the same condition affecting Fred, above. Ledecky had probably been without food for days as she was unable to fly with the condition. How she ended up in the pool is anyone's guess, but as luck would

have it landing in the pool is what ended up saving her. Had she landed anywhere else she likely would have never been found. She is named after Olympian swimmer Katie Ledecky, and will be released after she heals, which could take six to eight months. Her ear is marked green in the photo to indicate to caregivers that she must be hand-fed twice daily.

Little Micron, a tiny tri-colored bat, was spotted chasing a bug into a church on a Monday evening. On Wednesday morning she was still inside, and was too dehydrated and weak from hunger to fly away. A volunteer transported Micron to Bat World Midcities where she was found to be uninjured and simply in need of sustenance fluids.



Tri-colored bats are one of the smallest species in the U.S., with healthy adults weighing in at a whopping six grams (that's about 1/5 ounce, less than a nickel). They feed on small insects such as flies, beetles, moths, and true bugs. They are among the first bats to emerge in the evening and can be seen foraging at tree-top level or higher. One study recorded a tri-colored bat catching an insect every two seconds during a foraging flight.



Angus is a little brown bat who found himself trapped in the trailer of a semi truck that made several stops before arriving in East Texas. When the driver emptied out the last of his load, Angus was discovered in the back of the trailer with a broken wing.

Because of the wing injury, he is not releasable, so he will spend the rest of his life in comfort at Bat World MidCities. Angus is a rare treat, because little brown bats have been decimated by White Nose Syndrome. Little brown bats eat an enormous amount of insect pests in the wild and have an exceptionally long life span - one individual was recorded at more than 30 years of age in the wild.

BARTOK



Bartok is a male Mexican free-tailed bat who was found freezing and starving to death in a bucket inside a barn. The barn had not been entered for several days so Bartok likely exhausted himself trying to escape, unable to climb the slick sides of the bucket. He was found barely clinging to life by the property owner. Thankfully after emergency fluids and a few meals, he was almost as good as new. He was released back to the wild when the weather warmed enough to produce the many moths, beetles and flying termites free-tails love to eat.

Vivian is a hoary bat who was found hanging under the eave of a house. She was rescued by Bat World Bee Street and found to be very dehydrated and underweight, but no serious injuries could be detected. She was provided supportive care and is healthy, but has since refused to fly. Bats are very small, making injuries like slipped disks and small spinal fractures impossible to detect. In cases like

VIVIAN



Vivian's, we always follow their lead and simply provide care until they can fly again, and if that does not happen, they are provided lifetime sanctuary.

Hoary bats are among the most beautiful and brightly colored bats in North America. These bats roost in trees where their fur color provides camouflage from birds. Their diet in the wild includes flies, beetles, wasps and grasshoppers.



Amanda Lollar

LITTLE MISS AMAZING

This beautiful female free-tail was found grounded under a large maternity roost. When she was found she appeared deceased as her body was completely limp. However, we noticed that she was breathing. Her eyes were bright and alert and she was well aware of her surroundings, often blinking in confusion. Her body was paralyzed but she was very much alive.

We brought her back to Bat World, hydrated her and fed her. Although she could not move her mouth, she could swallow, so we fed her liquids and soft food by placing it into her mouth and allowing her to swallow before offering another small bite. We laid her stomach down in a soft, absorbent roosting pouch on the floor of the enclosure. Bats are meticulously clean so she was groomed with a small brush twice daily.

Two days passed with no improvement whatsoever so humane euthanasia was being considered.

On the third day we were thrilled to see that she could move her head and ears slightly and she could also chew very weakly. On the 4th day she was able to move her neck to look around and she could also move her legs and feet. On the 5th day she left the roosting pouch on her own to hang with the other bats in rehab, and she was able to groom her own body.

By the 7th day it was impossible to tell there was ever anything wrong. She ate like a champ and had loads of energy. We test flew her a few days later and she passed with flying colors so she was released into our bat castle with 14 other bats. We are not sure what caused her injury, but her recovery was nothing short of amazing.



Kate Rugroden



Kate Rugroden

DUST BUNNY

Little Dust Bunny the evening bat managed to get into a laundry room by way of the dryer vent and became covered in lint. The homeowner quickly scooped him into a box and called Bat World MidCities for help. Dust Bunny was thin and dehydrated, and had bruises on both wings from elbow to shoulder, so his trek through the dryer vent must have been an arduous and harrowing experience. However, after he received pain medication, fluids and a few of good meals, he fully recovered from his ordeal.

There are a number of options for covering a dryer vent to keep animals like Dust Bunny (as well as small rodents, insects, lizards, and snakes) from getting into your home. Please, protect them while protecting your home, and invest in a dryer vent cover— please take a moment and save a life!

Woodson, an adult male evening bat, was found on the ground in a puddle of rainwater following a severe thunderstorm. Clinging desperately to a stick despite a badly broken wing, soaked to the skin and cold, little Woodson refused to give up. After arriving at Bat World MidCities, we determined that in addition to the wing injury, he was bruised and had aspirated rain water which caused an upper respiratory infection. He responded well to treatment, and as he grew stronger his personality emerged. While he can never fly again due to his injuries, he has embraced his role as an ambassador for all bats with enthusiasm.



Before



After

Kate Rugroden

WOODSON



STICKY TRAP BAT

The purpose of hanging glue traps is to attract, capture, and kill insects. The bat that became trapped on this device performs this exact task every evening. He could have easily lost his life, as many bats and other animals do when they become trapped on the insidiously sticky surfaces of these devices.



A bat has the ability to capture and consume 3,000 to 5,000 insects every single night. Over the course of two weeks, a hanging glue trap will probably catch and kill a few hundred insects at best. If traps like these must be used, they should be covered with wire mesh that will allow insects to enter while keeping bats and other animals safe.

Thankfully, with lots of time, patience, vegetable oil to remove the glue, and several baths, the exhausted evening bat was free from his death trap. With two weeks of rest he was able to go back to the wild and eat more insects than these traps were even designed to accommodate.



Left: The bat is bruised, sore and exhausted from his struggle but finally free of glue.

Right: Fully recovered and ready to go back to the wild.

IVY



Before



After

Ivy, an Eastern red bat, was observed hanging from the roof overhang of a retail store for about two weeks before the staff found her down on the ground one morning. She was rescued and was found to be cold, tired, dehydrated, hungry, and frightened, but thankfully uninjured. After only 48 hours in care she was bright-eyed and ready to be released.

In the wild red bats eat moths, beetles, plant-hoppers, ants, flies, and other insect pests. They are sometimes seen swooping through a concentration of insects around street lights, attacking on average, an insect every thirty seconds.

MIRANDA



Before



After

A homeowner working in her back yard heard a commotion in the tree above her and suddenly a spectacular creature came plummeting to the ground with numerous broken bones in her wing. After seeing it was a severely injured bat, she called Bat World Bee Street for help.

Although the coloring of hoary bats helps to keep them camouflaged from birds and other predators, bird attacks are still quite common. Little Miranda's flying days are over due to her broken wing so she is receiving lifetime sanctuary.

MIRACLE

Miracle, an Eastern red bat, survived a head-on collision with a semi-trailer late one evening. The driver actually saw her swoop in front of him at the last second and understandably assumed the worst; after all, how could a 15 gram bat survive being struck by a 35,000lb wall of steel moving at 60 mph?

But survive she did. When the driver stopped to remove the bat the following morning, he discovered that although she was badly injured, she was alive! He used gloves to carefully remove her from the grill of the truck and made her as comfortable as possible until he was able to meet a Bat World rescuer and get her medical care.



Jacqui Sutherland

Above: Miracle on the grill of the semi-truck before she was removed by the driver. Left: Miracle under anesthesia before her shattered wing was removed.



Jacqui Sutherland

Miracle was barely clinging to life when she arrived at our Bat World Bee Street rescue center. She was dehydrated, in pain and in shock. Sadly, her wing and shoulder were too damaged to save. It was touch and go for 24 hours but finally, she was able to eat a little bit and it was apparent she would survive.

Although some red bats can struggle with the transition to captive care, Miracle soon became a pro. Her disposition is calm and accepting, she loves her enrichment and learned to help herself to the ever-present mealworm buffet.



Jacqui Sutherland

If this weren't enough, we soon discovered that Miracle was pregnant when she collided with the semi. Despite her accident, she gave birth to three healthy pups who she raised to adulthood. Her pups were successfully released to the wild.

Miracle will receive lifetime sanctuary and pampering at Bat World Bee Street, and stand as a reminder to all of us that no matter how bad things are, never give up.



Jacqui Sutherland

Top: Miracle with two of her newborn pups, clinging to her underside. Bottom: Miracle with the same two pups, almost fully grown and ready for release

THE ORPHANED TREE BATS

This summer we rescued 152 red bat mothers and pups. Thankfully, many of the small families were intact and able to be placed safely back into trees. However, over 100 pups were orphaned and subsequently needed to be hand-raised.

Red bats are among the few bats who have more than one live young. These bats typically have four to five pups every summer. They roost openly in trees using their “dried leaf” coloring as camouflage. Despite this natural ability to hide in plain sight, they are still sometimes spotted by birds such as blue jays and crows.

Mothers trying to escape bird attacks may drop their babies while flying away or they may end up on the ground due to the weight of their pups. Once these mother’s are grounded, they often refuse to leave their babies even if it means not surviving. When small families like these are found on the ground and they are uninjured, they can be placed into a tree that is safely away from the birds (for directions please see batworld.org/found-a-bat). Once safely in a tree, a mother bat will leave at nightfall, taking her pups with her -one at a time- to a location she prefers.

Hand-raising the orphan reds requires feeding them a specialized milk formula every few hours for six to eight weeks, then training them to eat live mealworms. When the pups are ready, which is usually between eight and ten weeks of age, they are allowed to fly in a large flight enclosure to hone their flight skills before being released to the wild.



Jacqui Sutherland



Jacqui Sutherland

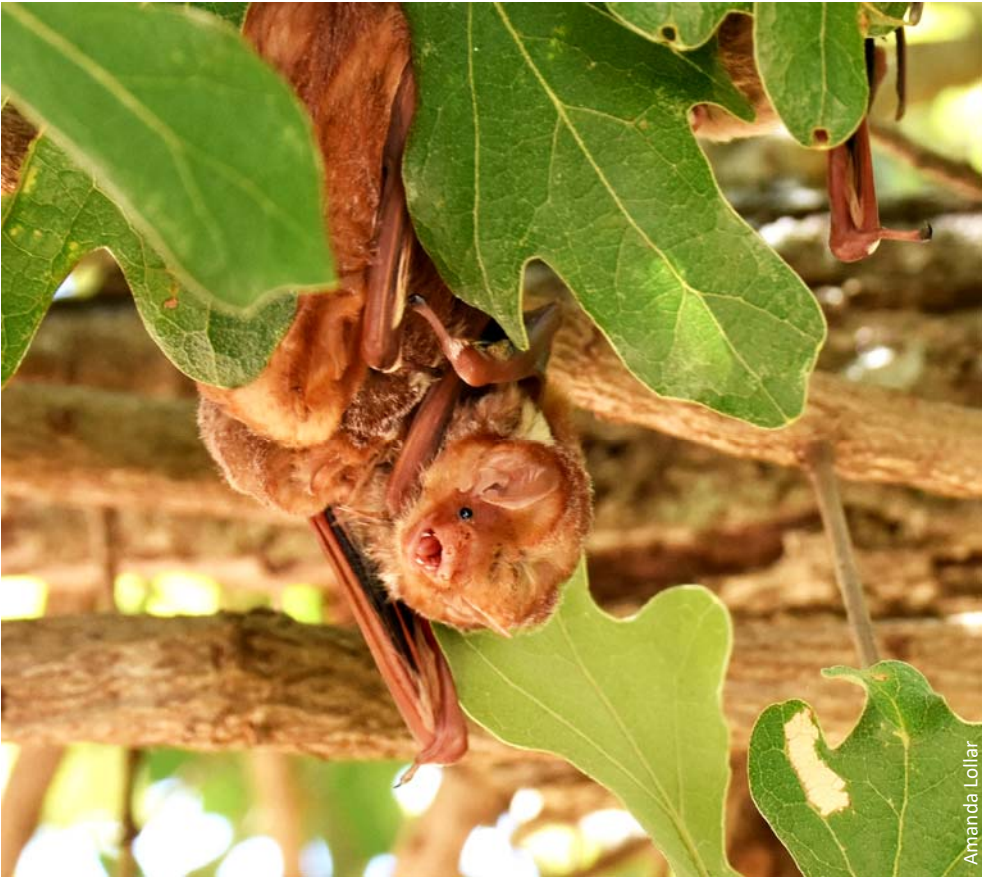


Jacqui Sutherland

Top: Red bat orphans approximately three days old. Center: A red bat pup approximately one-week of age. Bottom: a group of red bat orphans, mostly from different mothers. As babies they cluster together for warmth and security. When they reach adulthood they will prefer to roost alone.



Amanda Lollar



Amanda Lollar

Top: A mother red bat's face as she is being held in a cloth. Part of her pup's back can be seen beside her face. The babies cling to their mom's underside like fuzzy bandoliers, blending in so well with her fur that they often can't be seen.

Bottom: Four red bat juveniles on the day they were set free after being hand-raised. We mark a spot in a tree and place the youngsters out during the day so they can acclimate themselves to the outdoors. The spot is checked during the evening and again early the following morning to make sure no one stayed behind. Pups that lag behind are gathered for additional hand-raising before trying to set them free again.

THE ORPHANED FREE-TAILS



Amanda Lollar

This summer we became aware of a 90 year-old building in downtown Mineral Wells, Texas where a large nursery colony of free-tailed bats were roosting. They had previously been excluded but managed to find their way back inside. The building was dangerous for them as the ceiling was collapsing in places and several old elevator shafts existed inside, which became a death trap for pups that fell.

Thankfully, we had been working with the owner of the building, who allowed us access inside so we could rescue bats in trouble. We installed nets that allowed bats to crawl out of elevator shafts and back to their roost, which saved hundreds of lives. When hawks began attacking mother bats entering the building, we installed balloons and a fake owl on top of the building to deter the hawks. When feral cats showed up to snag injured bats who had been knocked out of the air by hawks, we set up humane traps and took the cats to a no-kill rescue center for feral cats, where they are vetted and adopted back out.

The bat rescues occurred every single day for over three months. During this time we saved 197 orphaned and juvenile bats and 135 adults. We are working with the building owner on a humane exclusion that will take place this fall.



Moriah Adams



Amanda Lollar



Amanda Lollar

Top left, page 26: The sad and starving face of an orphan free-tailed bat. He was one of 197 who were saved from starvation by our daily checks of the building. Lower left and right, page 26: A tiny starving orphan free-tail who had left his colony to die. This is typical behavior of orphaned free-tailed bats who are starving and know they will not survive. Above: A row of once-starving free-tailed pups nursing formula from foam tips. Below: One of our favorite orphans who came in starving with a severely injured wing. She healed well and was hand-raised to a beautiful healthy adult, along with the other orphans who now fly free.



Amanda Lollar



Amanda Lollar

BIRDY



Amanda Lollar

Birdy is one of dozens of adult bats we saved after hawks knocked them to the ground in front of the roost described on page 26. Rescuer Moriah watched a hawk miss Birdy by inches; she went tumbling from the sky and landed on the sidewalk in front of Moriah, who quickly scooped her up. Birdy's injuries included a puncture wound to the neck and hip and a badly torn wing, but thankfully she survived and is releasable. She will be overwintered with us while she heals and then released in the spring of 2020.

These two free-tailed bats were found like this, trapped inside a building. Sadly, the one on his back was deceased when we arrived. It was too late for him, but we were able to save his devoted friend.

This is not the first time we have witnessed bats protecting each other. Even when bats can fly away, they will sometimes stay behind to help their friends, even if it means sacrificing themselves. Bats have an intelligence level equivalent to that of dolphins. We have witnessed the depth of their emotional lives and this is one of the many reasons we are so dedicated to helping these beautiful beings.



Moriah Adams

FAITHFUL FRIEND

ELLA



Kate Rugroden

Ella, along with a few other captive mothers rescued this year, gave birth in captivity and successfully raised their babies to adulthood, at which time they were re-released. The stress of captivity will cause many mother bats to abandon their

young. Ella is a non-releasable big brown bat residing at Bat World MidCities. All Bat World Sanctuary rescue centers adhere to the same principals of providing the most optimal life possible for the non-releasable bats in our care. We ensure these moms feel comfortable by providing a diet and habitat that meets the bats' physical, emotional, and mental well-being.



Kate Rugroden

ELMER



Kate Rugroden

Elmer, a Brazilian free-tailed bat, was yet another result of horrendous, barbaric glue traps. Thankfully, he lived. He spent over 24 hours with both wings, one foot, and the top of his head, including both ears, firmly glued down. In his futile attempts to escape, his little face became so stretched out that he could no longer close his mouth, which had become filled with glue during his struggle. In the left photo he is covered in vegetable oil, which is what it takes to remove animals trapped in glue traps. The photo on the right shows Elmer clean and dry, but completely exhausted from his ordeal.

Glue traps are cruel instruments of death. They catch not only mice (which is bad enough), but they also catch birds, bats, lizards, frogs, toads and a host of other innocent beings. Please only use humane methods to remove mice and other small animals from your property.

HUGH



Amanda Lollar

This male Brazilian free-tailed bat became trapped in a lingerie boutique and was discovered by the nice owner, who called us for help after seeing him lying limp on the carpeted floor. By the time we arrived at the boutique he was neatly boxed up with a soft cloth, a dish of water and a fresh strawberry.

Hugh was very dehydrated and thin when he arrived but recovered in just a few days. In the photo above, Hughs' ears were marked green to indicate to caregivers that he needed to be hand-fed twice daily.

KIM K



Amanda Lollar



Amanda Lollar

Little "KimK" is a juvenile free-tailed bat who arrived to us with an unusual issue. Her tail bone had somehow become dislodged and ended up inside her tail membrane, which made it look like she had a large derriere.

The yellow dots in the left photo show her tail bone as it appeared inside her tail membrane. This issue inhibited her ability to fly so she ended up grounded. Her problem was corrected but we were unable to guide the shaft of her tail back out into the tail skin where it belonged, so her tail bone had to be removed. KimK recovered well but can't be released as the loss of her tail will continue to affect her flight and her ability to catch insects and avoid predators in the wild. However, she is still able to fly to her heart's content in the safety of the flight enclosure with the other non-releasable free-tails at Bat World.

OLLIE



Before

Kate Rugroden

Ollie is a sweet little Eastern red bat who was found grounded with a compound fracture just above the elbow, after he was knocked out of a tree by someone who is afraid of bats. Thankfully we were called by a neighbor to rescue him. He received pain medication and antibiotics for his injury and eventually healed. We did



After

Kate Rugroden

our best to educate the person who was so fearful of this innocent bat roosting peacefully in her yard. She now understands that he was helping her by ridding her yard of insects. Little Ollie is not releasable due to his injury, so we are giving him lifetime care with others of his kind.

PLEASE NOTE: We are trained and vaccinated to handle bats so we sometimes use bare hands in our photos as it allows better tactile sensitivity and control. However, if you find a bat please remember to use gloves or a towel as the bat will be frightened and may bite in self-defense. Please contact us if you find a bat, we have rescuers around the world and will do our best to help.

Protect yourself, protect them

**NEVER
RESCUE
A BAT
BARE
HANDED!**



Find help at batworld.org

Introducing Bat World Bulgaria

In keeping with our rescue efforts for bats around the world, we have teamed up with Vyara Krushkova, a dedicated bat rehabilitator and conservationist in Bulgaria who has had a crucial role in rescuing and protecting bats in that region. Thousands of bats each year die during the renovation of buildings, despite legislation in place to protect these bats. For more information and updates on Bat World Bulgaria please visit her Facebook page at facebook.com/batworld.bg/



Vyara Krushkova

GERY



Vyara Krushkova

This beautiful parti-colored bat was on a balcony during a storm. A section of her wing became covered with a sticky substance that made it impossible for her fly and get out of the storm. She was also skin and bones, which means she had been grounded and helpless for several days. By the time she was rescued she was in a state of panic and remained so terrified that it took several hours of working with her, a little at a time, to remove the substance. After a few weeks of care she recuperated well and was released back to the wild.

MyLove



Wyara Krushkova



Wyara Krushkova

MyLove is a brown long-eared bat. He is one of several dozen orphaned bats rescued, hand-raised and then returned to the wild by Bat World Bulgaria.



Before

RENOVATION RESCUES



After

Wara Krushkova

This juvenile Savi's pipistrelle bat was so severely dehydrated when rescued that he could not even open his eyes. He became lost inside a building that was being renovated. He recovered at Bat World Bulgaria and is now flying free with others of his kind.

HOPE



Before



After

Wara Krushkova

Hope is a common noctule bat who also became trapped inside a building during renovation. She was literally starving to death before being rescued and brought back to life by Bat World Bulgaria. Sadly, many of her roostmates did not survive. Bat World Bulgaria is actively working with contractors and government officials to prevent losses like this during construction projects.

This sweet noctule bat was caught and injured by an owl. For some reason the owl threw the bat onto the roof of a house. The commotion was witnessed by the homeowner when she heard the bat screaming. When Rusty was rescued by Bat World Bulgaria, his wing was completely twisted backwards. He is healing from his injury, which will take several months. He seems to enjoy being cared for and is full of personality. He is also very “talkative”, poking his head out of wherever he is roosting when he hears dinner headed his way.

RUSTY



Vyara Krushkova



Vyara Krushkova

Rescues in Other Areas

In 2019 we helped individuals and bat care professionals in 72 locations worldwide. Using photos and videos, we were able to identify species, share book chapters on bat care and rehabilitation published by Bat World Sanctuary, and offer medical advice to veterinarians, researchers, biologists and wildlife rehabilitators around the world.

This year we provided book chapters on how to treat injured bats and raise orphaned bats to bat rescuers in the following International locations:

Argentina, Belgium, Brazil, Bulgaria, Canada, Chile, China, Columbia, Croatia, Germany, Honduras, Indonesia, Ireland, Italy, Malaysia, Mexico, Netherlands, Russia, Thailand, Tobago Island, Seychelles Islands, Slovakia, South Africa, Spain, Sweden, Ukraine, Vienna and Vietnam.

In 2019 we provided help and information to U.S. bat rescuers as well as assisting the public with downed bats and humane bat exclusions in 45 states.

*For more details on our rescue work please see our **Rescue Log** at batworld.org where you can view the daily logs that include photographs and videos (when available).*

SPOTLIGHT ON INTERNATIONAL RESCUES

This beautiful orphaned Epauletted fruit bat was stuck in a thorn bush in South Africa and was rescued by Jane Burd of ReWild. Jane interned with Bat World Sanctuary over a decade ago and has since used our methods to save thousands of orphaned and injured bats in South Africa.

Poor little Ray had obviously been uncomfortably stuck on the thorns for a long while as he was very dehydrated and thin when he was rescued. He was hand-raised and then released to rejoin his colony.



Jane Burd

Rescuing Other Species

We offer Bat World Sanctuary's land as a release site to other wildlife rehabilitators. Several orphaned opossums who were hand raised by a local wildlife rehabber now have a new home on our 13 acres of protected land that includes a large pond. We feed the deer, birds, squirrels and other wildlife. It gives us a great deal of pleasure to provide protected habit for all wild animals.



Amanda Lollar

Bat World volunteer Larry was biking when he noticed a sweet jack rabbit dragging herself off the road, likely from being hit by a car. We transported her to Squeeze Farm wildlife rehab so she could be treated. Like the bats we rescue, she knew she was being helped.



Amanda Lollar

The large bat roost where we rescued orphaned and injured bats on a daily basis soon attracted feral cats. We used a live trap to capture as many cats as we could and transported them to a no-kill rescue center for feral cats. Two of these were starving younger cats (pictured) who simply needed a better chance at life.



Amanda Lollar

Workshops

NATIONAL WORKSHOPS



In January, Bat World Sanctuary held the first of our new National Workshops in Panama City, Florida, with a second workshop in Boise, Idaho in March (pictured above). We educated 22 wildlife rehabilitators, biologists, and licensed veterinary technicians on proper handling, housing and feeding, and medical management for orphaned, ill, and injured native bats. The launch of our National Workshops program is the culmination of more than a year's planning to ensure we can deliver the same quality of education in remote locations. Looking ahead to 2020, National Workshops will be held in Charlotte, NC, Madison, WI, and Bakersfield, CA in addition to three workshops to be held in Texas. Please see our workshop page at batworld.org for additional details.

PROFESSIONAL OUTREACH

In addition to educating wildlife rehabilitators, biologists, veterinarians, and licensed veterinary technicians, Bat World Sanctuary is approved to provide continuing education hours for Texas Animal Control officers who attend our rehabilitation workshops. We believe that building strong partnerships with animal shelters and law enforcement agencies through education safeguards our native wildlife and protects our communities. (*Continued next page.*)

Educational Efforts

Your donations have allowed us to reach over **5 Million** people this year through educational events, news outlets, social media videos and posts, and in our magazine.

Bat World is also frequently invited to present workshops at both the Texas Unites for Animals and Texas Animal Control Association conferences, reaching over 100 Animal Control officers statewide each year.

As part of our continuing professional education efforts, Bat World Sanctuary is pleased to report that our approval for veterinarians and licensed veterinary technicians to earn Continuing Education (CE) hours has been renewed by the American Association of Veterinary State Boards. Veterinarians and Licensed Veterinary Technicians (LVTs) are eligible to earn eight contact hours for each day of our bat rehabilitation workshops they attend. With the expansion of our workshop program to include the National series, we are able to offer CE hours for veterinarians and LVTs in all locations where our workshops are held.

By training veterinarians, licensed veterinary technicians, biologists, animal control officers, and game wardens, we can directly impact the health of these animals, raise the quality of care in zoos and research facilities, and reduce the number of bats needlessly euthanized in animal shelters.

COMMUNITY OUTREACH

In addition to professional education workshops for bat rehabilitators, biologists, veterinarians and licensed veterinary technicians, and animal control officers, Bat World continues to educate the public through our popular bat programs. In 2019, we added public programs to our National Workshop events in Panama City, Florida and Boise, Idaho (pictured), as well as locally in the Dallas-Fort Worth, Texas area. To celebrate National Bat Week in October, we will be returning to the very popular *Bitty Bat Fest* as well as delivering educational power-point programs to schools and nature centers.



Rita Dixon

Activism in 2019

"PROTECT PEOPLE, PROTECT BATS" VIDEO



Bridget Cameron

Pictured above is David McGowan, of Ravenswood Media in Chicago, interviewing our VP of Operations and Director of Bat World MidCities, Kate Rugroden, at Bat World Sanctuary for a film titled "Protect People, Protect Bats".

This film is the brainchild of Rita Dixon, PhD, a State Wildlife Action Plan Coordinator for the Idaho Department of Fish and Game, where she focuses on the conservation of species of greatest conservation need. Rita attended our Bat World Bootcamp, a week-long workshop in 2004. Rita has over 18 years of experience working with bats, 16 of which included the captive care and medical treatment of orphaned, sick and injured bats.

This film will accurately characterize bats and rabies (and what constitutes rabies exposure) in an effort to offset the indiscriminate killing of healthy bats. An important goal of the film is to alleviate the public's fear of bats in general, dispel myths and raise awareness. The film will be broadcast in early 2020 and will be posted on numerous social media platforms.

The film is being funded in part by the Peekaboo Rescue Fund, established last year in Honor of our beloved Peekaboo. The fund assists individuals who are involved in rescuing and rehabilitating bats or are involved in large-scale educational efforts designed to save bats. A special thank you to Dave Kugler of the Wildlife Control Helpline for supporting this important project through the Peekaboo Rescue Fund.

This year we met with environmental specialists from the Texas Department of Transportation (TXDOT) for a potential bats and bridges project. The specialists were delighted to see an actual bat up close (pictured). The project will hopefully take place in the early spring of 2020. Additional bat housing would provide critical habitat to the numerous bats who have been displaced in the North central Texas area. If the plan moves forward we will be working with TXDOT on a regular basis on this essential project.



WORKING WITH TXDOT

Bridgett Cameron



A CURE FOR WING WASTING

Amanda Lollar

Wing wasting syndrome, an infection that causes the membrane of the wing to blister, slough and disintegrate, has affected an increasing number of bats over the years. These bats are often found grounded during the onset of the infection as flying is painful. We have tried numerous antibiotics and treatments over the years to no avail. We have also sent samples in to various labs across the US but the results were always inconclusive. Finally, this year we found an answer through the Texas A&M Diagnostic Laboratory.

The pathogen involved is *Pseudomonas aeruginosa*, a genus of gram-negative bacteria that can affect humans, animals, and plants. It is found in soil, water and decaying matter. Bats roosting in older buildings that contain rotting wood are more likely to contract the infection. Thankfully, we now have an antibiotic that stops the infection before permanent damage is done to delicate wing fingers, as was always the case before we had any treatment. This information, as well as other updates on treatments for bats, is available at no charge for all wildlife rehabilitators at batworld.org.

THOUSANDS SAVED FROM DEADLY EXCLUSION

An exclusion was set to take place in Lufkin, Texas, smack dab in the middle of baby season. This would have had more than 3,000 flightless babies trapped inside to slowly die of starvation. The bat colony was roosting in an old, burnt out building that had been vacant for decades. The building was scheduled to be refurbished so the company wanted the bats out as quickly as possible, despite the loss of life it would cause.



Amanda Lollar

A mother free-tailed bat nursing her single pup while other babies huddle under the warmth of her body.

Aside from the loss of life, the exclusion would have also created a potential health hazard. Hungry baby bats, in search of their moms, will crawl into the walls and vents, where they would have died, or they could have ended up in the street and possibly picked up by children and pets. Frantic mothers, exhausted from trying to get back to their babies, could also end up grounded in the streets around the building.



Amanda Lollar

Infant Brazilian free-tailed bat pups are born without fur so they cluster together for warmth and security. Bat pups are always born during the summer months, the warmest time of the year.

We were alerted to the situation by a Bat World supporter and immediately took action by contacting the owner of the exclusion company, and the local wildlife authorities. We also created public outcry on our Facebook page and hundreds of people contacted the company doing the exclusion.

The owner of the company returned our call, and after listening to our concerns for the bats as well as the liabilities and bad press he could encounter, he agreed to wait to do the exclusion until the end of August, at which time the pups would be old enough to fly out of the building safely along with their mothers.

Top right: The Lufkin Daily News article on the delayed bat exclusion. Bottom right: A message we received from the owner of the exclusion company.

Advocates' concerns delay bat evictions

By AUSTIN KING/The Lufkin Daily News Jun 19, 2019



The eviction of several thousand bats from a burned-out building in downtown Lufkin has raised concerns from bat advocates across the state, and in turn the eviction has been moved back to allow baby bats to grow and fly.

The process to relocate more than 3,000 bats from the former Magnolia Frame Works Building on Cotton Square started Monday. Wildlife X Team of East Texas and Dallas Metro set up check valves around key points the bats used to exit the building, boarding up holes and mounting bat houses in the breezeway near the bats' main exit.

Since the initial report of the bat eviction was released, some have raised concerns about the process, including Amanda Lollar, founder and president of Bat World Sanctuary in Weatherford.

Wildlife [REDACTED] Message from our franchisee, [REDACTED]:
Hello and thank you for all your concerns and more importantly your comments. You guys/gals are absolutely correct that the babies need there mother and it's not yet the season for eviction. I would like to first say we Love bats here at Wildlife [REDACTED] and we're huge Advocates for there safety as well as the young. I would like to set the record straight by saying, yes we have done exclusion on 3 buildings, which means we sealed up any and all gaps BESIDES the major exit points used by bats to escape the building during feeding. Now the EVICTION will take place come the end of August as well as the clean up. Our major concern at this point was the spread of new colonies to other buildings. Due to the health concerns Wildlife [REDACTED] of East TX did talk to other business owners regarding there own exclusion as to keep them from having any future issues. I have talked to the Lufkin Newspaper and Reiterated that the bats will be 100% relocated at due time but that people need to be aware of walking through that alley till cleanup is properly handled.

Thank you

[REDACTED]

To reiterate, [REDACTED] and his team will finish the job at the end of maternity season.

Note: The increase of human expansion has resulted in a loss of habitat for bats, forcing them to look for alternative roosts to live in and raise their young. Bat colonies living in human structures can be noisy and sometimes create unpleasant droppings or odors. The only safe, humane way to evict bats from a building is by exclusion, a method of creating a one-way exit that allows bats to leave but then prevents them from re-entering. Bats should only be evicted when no dependent young are present, which means never during the months of May through mid-September. Do-it-yourself exclusion methods as well as a list of professional bat excluders can be found at batworld.org

National Aid for Bats

- Presented a "Making Sense of Texas Wildlife Laws" lecture at the Texas Animal Control Association conference in San Marcos.
- Assisted the Idaho Department of Fish and Game with guidance on humane euthanasia for insectivorous bats.
- Provided guidance on insectivorous bat rehabilitation to bat rescuers in North Dakota, Connecticut, Ohio, Louisiana, Florida, Arizona, California, Missouri, Washington, North Carolina, Ohio, Pennsylvania, New Mexico, Texas and Idaho.
- Provided guidance to Peace River Wildlife Center on environmental enrichment and housing for insectivorous bats.
- Exposed the unscrupulous behavior of a pest control company that was causing great harm to bats by lifting ceramic roof tiles where bats were roosting so they could video the bats for their Facebook page. Panicked bats were scrambling and falling on top of each other, and worse, many were likely crushed when the tiles were laid back down. The pest control company deleted the video and later also changed the name of their Facebook page.
- Provided assistance with a presentation on how to triage insectivorous bats for a Washington Wildlife Rehabilitation conference.
- Provided guidance to animal control officers in New Jersey on humane confinement for insectivorous bats as they are currently being confined in aluminum coffee cans.
- Collaborated with bat rehabilitators in North Carolina who are actively working to change the legislation that currently bans rehabilitating bats and other rabies vector species in that state.
- Began preliminary steps in conjunction with Team Mojo Wild Rescue to rewrite the National Wildlife Rehabilitation Association's guidelines for insectivorous bats.
- Continued the promotion of our proper handling techniques for insectivorous bats to researchers who are now also spreading our message online and through our hand-outs at conferences and events. We are noticing a significant drop in the amount of photos being shared online that depict bats being held inhumanely.

Worldwide Aid for Bats

- We are working closely with Project Paradise in the Seychelles Islands to open a sanctuary and rehabilitation center for flying foxes on the islands. These bats are being indiscriminately trapped using fishing lines and hooks by islanders, then killed to be sold to local high-end restaurants who serve them as a "traditional delicacy" to tourists who visit the islands from around the world. We will continue working with Project Paradise in order to educate the islanders and hopefully gain government protection for the bats of this island.
- Assisted a bat rehabilitation center in Vienna, Austria with advice on captive care, enrichment and neutering non-releasable insectivorous bats.
- We are working with a bat rescuer in the UK who is actively rescuing fruit bats from the cruel, exotic pet trade.
- Worked with a wildlife rehabilitator in translating our protocols on euthanasia and humane handling protocol from English to Spanish for bat rehabilitators in Argentina.

- Provided our bat castle plans to a farm in Islington, Saint Mary's Jamaica. The farm is planning on building a bat castle to provide safe habitat for the insectivorous bats in their area as entire colonies are often killed when found roosting in buildings.
- Worked closely with a tourist in providing acceptable habitat for bats being kept by a roadside zoo in Bali. Bats and other animals had no enrichment and were being kept in small wire cages. We provided our standard for bats as well as enrichment ideas. The tourist reported back that the roadside zoo was open to changes and enriching the lives of their animals.
- Assisted bat rehabilitators in Slovakia in caring for bats throughout their pregnancies. We discovered the bats were being housed in small, barren enclosures so we provided book chapters on housing, nutrition, caring for pregnant bats and releasing mothers and their offspring back to the wild.

Noninvasive Research

- Participated in a University of Maryland project to develop a noninvasive method for estimating the age of free-tailed bats using patterns of DNA methylation.
- Assisted with a project at Texas State University on the bioaccumulation of toxic contaminants, specifically mercury, found in the fur of insectivorous bats. Deceased specimens collected over the summer of 2019 were used to obtain fur samples. The negative effects that mercury can have on bats include immuno-suppression, neurological effects, death, and long term population declines.
- Aided an assistant professor at the University of Colorado in renovating a facility at the Southwestern Research Station of Arizona to conduct noninvasive flight studies on insectivorous bats.

Positive Media Coverage

This year Bat World Sanctuary was featured in videos and articles (magazines and online) on The Dodo, Parker County Living Magazine, Spoonflower, Vegan Cuts, The Weather Channel, Weatherford Democrat, Naturee, Institut Bernat Metge in Barcelona and Un Poco de Toco in Spain.

Educational Literature

We provide our educational cards and literature free of charge to schools across the US. This year we sent materials to elementary schools in Louisiana, Texas, Georgia, Connecticut, California and Wisconsin.

Conserving Bat Colonies

We stopped inhumane bat removal methods from occurring and provided alternate humane bat exclusion techniques to individuals and businesses located in four locations in Texas, and in one location each in Mississippi, California, New Jersey and Arkansas.

Keeping Wild Bats Safe in Summer Months

Summertime is busy for everyone, including bats. Baby season for our North American bats starts in May and ends in early September, depending on the species. Here are a few tips you can use to help save the lives of the battie buddies living in your own neighborhood.

Be careful when mowing!



Bats roosting in trees are often attacked by blue jays and crows, ending up grounded in yards where they are often found by people or pets, or worse, hit by lawn mowers. A mother bat will try to protect her babies by spreading her wings over them as seen in the photo on the left. Please check your yard for downed bats before mowing. If you find a bat in need please visit batworld.org to find a rescuer in your area.

Save bats in palms

Don't trim their natural frond "bat houses"
(especially not in spring or summer during baby season!)



At least 12 of our 47 US bat species use dried palm frond "skirts" as natural bat houses. To protect baby bats and birds, don't trim dried fronds in spring or summer. Try to leave some dried fronds year round so bats have a safe place to raise their pups in summer or to hibernate in winter. In addition, cosmetic trimming of the fronds can make palm trees more susceptible to heat stress and drought, so leaving some fronds helps both the trees AND bats!

Please don't leave outdoor fans on overnight!



Ceiling fans can break tiny arm bones. Please turn any outdoor ceiling fans OFF at night to avoid tragic accidents with bats that may fly under your porch looking for a tasty insect treat.

Please give bats a break by NOT giving them a break! You'll save a little on your electric bill while also saving little lives.

Please don't destroy my nursery!



THERE IS NO HUMANE WAY TO EXCLUDE A BAT COLONY DURING BABY SEASON. Most bats give birth to just one pup starting in late spring and summer. If you seal out a bat colony or trim down their palm frond home during the spring or summer, baby bats will be left behind to die. If you have an unwanted bat colony in your attic, ensure there's no way they can get into the home's interior but wait until the end of summer before having the colony excluded. Visit batworld.org for humane ways to evict bats at the proper time of year.

Once this pup's little, stubby wings grow out and she learns to hunt, she will be able to eat more than 1,000 mosquito-sized insects in an hour! Please give her a chance to grow up.

Use Froglogs in Pools!



If you have an outdoor pool please add a Froglog as well as a "critter skimmer". Both of these items can save countless lives every summer. Froglogs are small and compact and simply hang from the pool edge, allowing mice, lizards, turtles, toads, frogs and bats to escape drowning.

(Note: The image on the left has been Photoshopped to serve as an example.)

Install a pup catcher!



Every summer we receive dozens of reports of baby bats falling from bat houses. This occurs when pregnant moms move into a bat house, not understanding that the population inside the roost will double when their babies are born. The pups grow quickly so it doesn't take long before the bat house is over-crowded and overheated. Installing a pup catcher is very easy to construct and costs very little. It is a simple net that catches fallen pups and allows them to climb back inside. Pup catchers can even be made to fit inside barns, under the eaves of homes and any other area where babies may be falling. If you have a bat house with bats, or have noticed pups falling from another type of roost, please install a pup catcher right away. See batworld.org for free instructions.

Special thanks to Cindy Myers for the use of her graphics and text!

Fundraisers & Expenses

North Texas Giving Day On September 19, 2019, we participated in North Texas Giving Day (NTGD) for the 5th time with a goal of raising \$35,000. NTGD is a one-day event where nonprofits raise as much as possible in 16 hours. We were thrilled to raise \$37,675! This year we took in over 70 non-releasable bats, bringing our total bats receiving lifetime sanctuary to almost 370. The monies donated from our wonderful NTGD supporters will be a significant help in providing food and medicine for these deserving beings.

Seattle Foundation Grant

Bat World Sanctuary received a \$5,000 grant from an anonymous donor through the Seattle Foundation to further our work on the “battoo” a device that we hope will save thousands of bats from the deadly effects of banding being currently being used.

GreaterGood Grant

We are thrilled that the Greater-good.org has once again chosen to help Bat World Sanctuary with an online and ongoing fundraiser they created on our behalf. So far we have received almost \$5,000 in support from GreaterGood members.

Biking for Bats! Bat World Sanctuary supporter Patrick Lynch created a fundraiser for the bats by doing a four day, 350 mile bike tour from Pittsburg, Pennsylvania to Washington DC, and raised \$2,785 in the process! This provided fantastic help with our food bill for the nonreleasable bats in our care as well as those we rescue. *Thank you, Patrick!* ♥

Big Bat House



After discovering that a few bats were using one of the bat houses attached to our bat castle, we held a Facebook fundraiser to install a “big bat house” to hopefully attract more bats to the safety of the bat castle. The bat castle, along with the big bat house, is capable of providing protected habitat for over 100,000 bats. We now have evidence of bats using the bat castle as more buildings are being renovated in a nearby town. See page 50.

This year our 2011 Honda Element began to have issues. With the help of an anonymous donor and a generous trade in offer, we secured a new rescue vehicle that allows us to transport larger shipments of fruit which we are now getting below cost from two sources. The vehicle also saves on fuel, which is especially important on long-distance rescues.



Our new 2019 Honda Passport with “Why Save Bats?” and the answer “Visit batworld.org” on the rear window.

Bat World’s land came with a mobile home on the property. The mobile home began to deteriorate so it was sold and we used the profit, along with contest winnings we had in savings, to construct a new caregivers residence. Having onsite caregivers is critical for the safety of the bats in the event of emergencies such as a fire.

New Onsite Caregivers Residence



This year we noticed a serious erosion issue that compromised the safety of our facility. Unfortunately, the concrete blocks that were initially set in place at the fence line did not include drainage so the entire fence and yard began to tilt. Several cracks in the building also occurred. The issue has been fixed with a new concrete wall and proper drainage system.

Major Erosion Issue Corrected



amazon smile
You shop. Amazon gives.

Shop at Amazon.com and Bat World Sanctuary gets a percentage donation directly from Amazon!

1. Go to smile.amazon.com
2. Select your charity
3. SHOP!

Please sign up and choose Bat World as your charity at smile.amazon.com! When you shop on Amazon, we receive a donation from the site at no cost to you! AmazonSmile deposits quarterly donations directly to our account. The last amount we received from amazonSmile was over \$1,800, enough to buy almost 3 weeks of fruit for the fruit bats!

Celebrating POOP!



After using the bat castle for the last few years as a protected release sight, we noticed guano under one of the bat houses mounted on the side of the castle. The big bat house was then erected on the south side of the bat castle in an effort to entice more bats to the castle (see page 48).

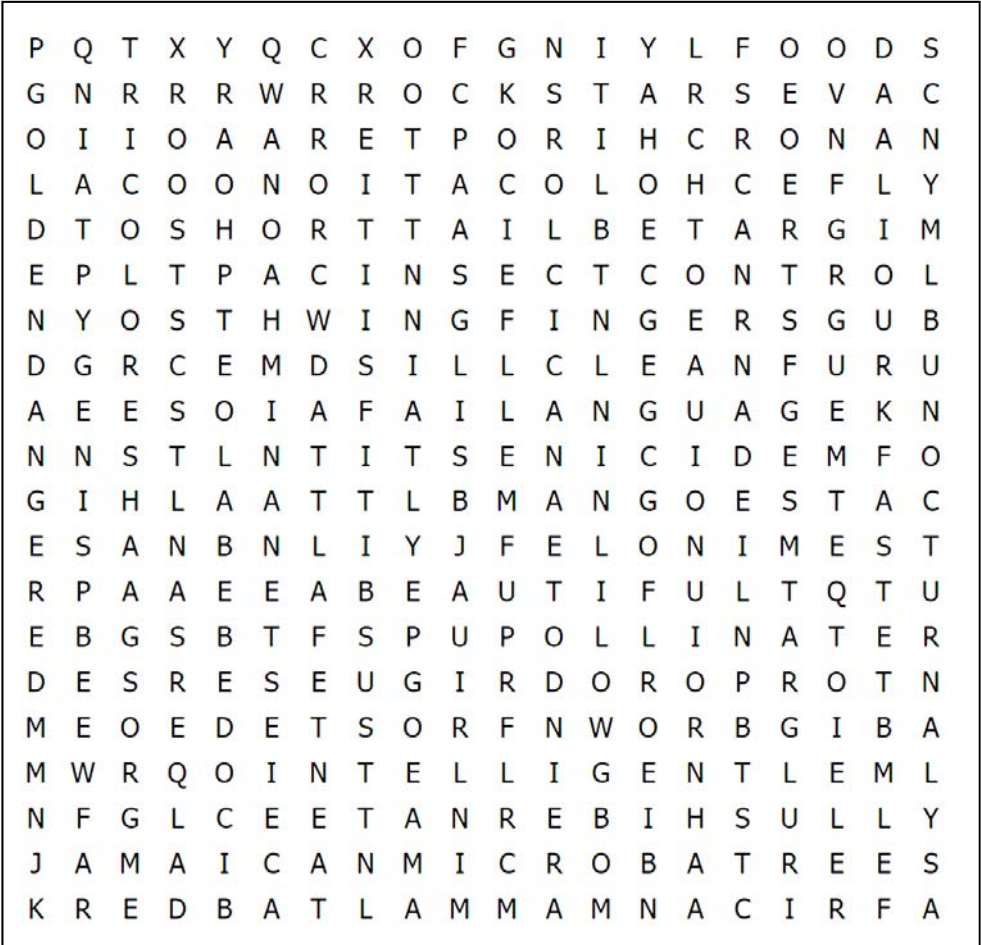
In July we noticed guano accumulation on the predator guard under two bat houses as well as under the flashing around the castle (photo above). In order to make sure the guano wasn't from bats that we had released into the castle the day before, we swept the guano off, then rechecked the following morning. Even more fresh guano appeared the next morning, as well as several mornings after that. Since we release all rehabilitated bats through the bat castle, it is obvious they are now finding their way back to safe accommodations.



To celebrate the fact that bats are now finding the bat castle on their own, we had a champagne celebration at the bat castle under the light of the full moon.

Batty Word Search

Use your batty brain to find the words below that include bat behavior, bat species, and the many beneficial products that bats bring to us.



AFRICAN
BANANAS
BEAUTIFUL
BIG BROWN
BUGS
CAVES
CHESSIE
CHIROPTERA
CLEAN FUR
ECHOLOCATION
EGYPTAIN
ENDANGERED
ESSENTIAL

FAST
FLY
FLYING FOX
FOODS
FREETAIL
FROSTED
GENTLE
GOLDEN
HIBERNATE
HOARY
INSECT CONTROL
INTELLIGENT
JAMAICAN

LANGUAGE
LITTLE BROWN
MAMMAL
MANGOES
MEDICINES
MEGABAT
MICROBAT
MIGRATE
MOTHS
NECTAR
NOCTURNAL
PALLID
POLLINATE

PUPS
RED BAT
ROCK STARS
RODRIGUES
RONAN
ROOSTS
SEMINOLE
SHORT TAIL
SULLY
TORPOR
TREES
TRICOLOR
WING FINGERS

Letters

Sharing a few of the messages we received in 2019. Receiving notes like these means more to us than we can fully express! We hope you enjoy reading them.

Cassandra [REDACTED] **Bat World Sanctuary** After calling several companies, health departments, game warden, college wildlife prgs, sanctuaries, wildlife services, police department, sheriff's department, wildlife transportation, and many other random places to find someone to pick up the family and NOT murder them. I scheduled an appt with a company that was very reasonable, would cage and relocate them, in business for 24 years, and not a single review. (Can't say I felt good about using them and did not trust what they said.) I read caging is absolutely a "NEGATIVE". I felt as though I had no other options. Couldn't sleep at all last night, praying and asking God to forgive me for using the services of a company I had concerns with and praying I was wrong. God did even better. He sent me an angel named, Amanda. She called me first this morning. I told her I no longer needed help thanks for calling. She requested I share my issue with her anyway.

Nick, 911 Wildlife just left. He explained EVERYTHING to me about my neighbors and dispelled all of the horrendous myths I've heard and read over the past 6 months or so. He gave me a tour of my home and explained why I was hearing what I did and why. Nick and his Team will return next Wednesday to relocate and complete an exclusion and meet the exact price for ALL SERVICES as the company that "cages and releases." After being laid off, dealing with medical issues for the past 2 years, 911 Wildlife not only gave me hope for my neighbors, but hope for me. I could no longer hold back my emotions of complete gratitude, comfort, trust, and relief. Nick said don't worry, we will take care of it. Music to my ears and cleansing water for my soul and eyes. I want to make sure my angels are aware their services, what they do, and the manner in which they do it is very much needed and appreciated. Amanda, Nick, & 911 Wildlife I can't thank you all enough and look forward to sharing how exceptional you all are.

I ordered your wonderful bat tote and it came in the mail today. With it came the educational paper on improper handling techniques for microbats.

I am a graduate student in environmental science. My thesis and passion is about bat conservation. I learned how to handle bats in the field from my instructors. I was horrified to find out I am man-handling these sweet creatures! My number one move was to pick them up by the scruff, as I thought it was painless.

Thank you SO much for the photos on how to handle bats gently and properly.

I can honestly say I HATED bats for the longest time. But since I've been following your FaceBook page for the last year, you and your team has made my heart mushy. The other night a bat got into my sons room and of course everyone was freaking out, I threw a shirt over the little fellow and took him outside, he held onto the shirt for a couple minutes and then flew away. I thank you for this page! Now I'm no longer afraid of them and I think they are adorable. ♥♥

Thank you so much for leading such a wonderful workshop! I am so grateful that we all got to have Kate, such a great teacher! I'm both extremely excited and scared to death about my venture into bat rehab, but knowing that I have you and Batworld to guide me when I need help for the patient' is relieving. I hope to do Batworld proud as a rehabber, and influence others to come 'under the wing' into bat rehab.

Hello! I would like to extend my thanks to you. I follow and read your posts (and love your photos). Many times you post the protocols for what to do if you find a bat. Today I was able to put that knowledge to good use. We found a small bat on the ground behind the building where I work. It is a high traffic area with semis unloading and he/she was not safe. I knew not to touch it and scooped it into a box with a clean rag. I found a wildlife center that would take him/her (Wildcare in Bloomington, IN) and got the little one there as soon as I got off work. They asked me repeatedly if anyone had touched it, gave it water, or food, and I told them that I read your FB page and knew what to do and not to do. They were extremely pleased and after a brief examination said he/she was in good shape but the cold snap early this morning may have caused it to be unable to return to roost. They also weren't able to readily identify the little one, and told me it might be rare or endangered and that they would need to do some research. I cant wait to hear more! Thank you, thank you, thank you!



In Memory of Diana Lee Coles

Long-time supporter of Bat World Sanctuary and avid lover of bats, Diana Lee Coles of Santa Fe, New Mexico, passed away on April 27th, 2019.

Diana was a force to be reckoned with. She was a brilliant artist and a devoted philanthropist especially where Bat World Sanctuary was concerned.

Diana was never afraid to do things no one else wanted to do. She had many careers including advertising, the garment industry and real estate. She enjoyed white water river rafting and other adventurous outdoor activities. Surviving is her son, Forest, who was her brightest shining light, even in the darkest places. Forest shares his mother's devotion to bats.



Diana's creed was "Don't be afraid to be different" and it was one of the things she loved about bats, their difference. We will miss Diana's beautiful smile and giving nature.

May you always feel the presence of the tiny creatures you both loved and supported, and be lifted by their spirit as you always lifted the spirit of those around you in life. Rest in peace, dear friend, as you soar with the angels.

Loving Tributes

In Honor of Susanne Pyle

~ Sharon and Damon Kletzien

In memory of my daughter, Chappell Hope

~ Charles Hope

In memory of Australian Bats lost to heat wave

~ Chrysanthie Chamis

Sponsor a bat in need for \$35!



Your sponsorship package includes:

- An adoption certificate listing you as the official sponsor.
- The personal background of your sponsored bat.
- The natural history of the species.
- A matted photograph of your bat, suitable for framing.
- An online subscription to *NIGHT FLIGHT NEWS EMAILS* (subscribe at batworld.org or email us at sanctuary@batworld.org to be added).
- A personalized message for a gift Adopt-a-Bat. Our standard gift card message reads: "This "Adopt-a-Bat sponsorship has been made in your name. Your sponsorship package includes a one-year membership to Bat World Sanctuary, our *BAT WORLD* magazine and an informational card on bat rescue. Enclosed you will find a 5" x 7" photo of your adopted bat, who thanks you from the bottom of its little bat toes for the food and medical supplies your gift has provided."



Orphaned free-tails



Bootsanna



Orphaned red bats



Please enter the name of bat(s) you wish to sponsor: _____

Name as it should appear on the certificate: _____

Email address (to receive our online magazine) _____

NOTE: We do not sell, trade, or share your personal information with anyone.

BILLING INFORMATION:

Name: _____ Phone _____ Date _____

SHIPPING ADDRESS:

Name (if different than above): _____

Address _____ City _____ State _____ Zip _____

Total of sponsorship (**Please remember to include \$7.00 shipping**): _____

Check enclosed _____ Charge _____

Credit Card Number: _____ Exp. Date: MO _____ YR _____

NOTE: If this is a gift Adopt-a-Bat please include any special instructions, such as a special message, on a separate piece of paper.



WHY SAVE BATS?

Roughly one of every four mammals on earth is a bat. Consider this: if your day includes soap, toothpaste, cosmetics, coffee, margarine, chewing gum, candles, paper, ink, wood, fuel, rope, twine, rubber, spices, vegetables, fruits, chocolate, margaritas, air fresheners or even life-saving medicines, you are not only involved with bats, you are likely dependant upon bats. Bats are among the most beautiful and beneficial animals on earth. They are clean, gentle and intelligent. Bats are vital for healthy ecosystems and enhance our lives in many ways. Fruit and nectar bats bring us approximately 450 commercial products and 80 different medicines through seed dispersal and pollination. Up to 98% of all rainforest re-growth comes from seeds that have been spread by fruit bats. Insect-eating bats are literal vacuum cleaners of the night skies, eating millions upon millions of harmful bugs. They protect us by eating insects that destroy crops as well as insects that cause human disease.

Yet for all they do, bats are continually killed due to myths, superstition and fear. The life expectancy of a single bat may exceed 20 years, but slow birth rates limit their population growth. When just 5 bats are needlessly killed, a potential 100 years of animal life is destroyed. Worldwide, almost 60% of bats are either endangered or official candidates for listing, and they desperately need your help.

HOW YOU CAN HELP

In a world where so many look away, Bat World Sanctuary is on the front line to end the abuse and destruction of bats. We have been recognized as the world leader in bat rehabilitation for nearly two decades. Each year we rescue thousands of bats that might otherwise die. Lifetime sanctuary is given to non-releasable bats, including those that are orphaned, injured, confiscated from the illegal pet trade and retired from zoos and research facilities. You can help us save bats by educating others about their plight, and by donating to Bat World Sanctuary.

Bat World Sanctuary was founded in 1994 and is a 501c3 non-profit, volunteer-based organization. Donations allow us to continue our rescue efforts for bats.

Bats are now in their 11th hour. We can save them, but we cannot do it without your help. Bat World Sanctuary is not state or federally funded, our funds come from caring people like you. Please join us in our efforts to save bats by making a donation and becoming a member of Bat World today.

BATWORLD.ORG offers free educational materials, videos, kid's games and rescue information. You can even sponsor a bat in need through our Adopt-a-Bat program. Sponsors receive educational materials and *BAT WORLD*, our conservation magazine that includes beautiful photos of rescued bats. You can also receive an online membership to *Night Flight News*, our e-newsletter, by simply making a donation of any size through batworld.org.