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NTS NEWSLETTER

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HYPNOTIZING SHARKS

BY ALEC COLOSI

Whether it be for research, population analysis, husbandry, or treatment; people handle sharks often. And with many species having quite impressive bites and strength, safe sedation is imperative for the safety of both handlers and animals alike. On the side of bites, it is obvious what handlers need to be wary of, but sharks have certain physiological characteristics that require safe sedation as well. Of particular concern is the risk of capture myopathy. This is a physiological process that occurs in many wildlife species during periods of high stress, where the animal exerts its muscles to such a degree that causes a lethal acidosis and breakdown of muscle tissues. Sharks are at a great risk of capture myopathy, and its effects may not be observed until well after handling is finished.

But, how do you sedate a shark safely for simple procedures with minimal side-effects and a short recovery time? There are chemical restraint methods, but these can leave sharks sedated for longer periods of time than are necessary, and have various risks such as overdose, absorption into tissues, respiratory depression, and prolonged recovery time. There is also another option that is used widely on sharks, both in captivity and in the wild: tonic immobility.

Tonic immobility is a state of hypnosis that can be induced in many vertebrate species including rabbits, snakes, and, you guessed it, sharks. In this state, the animal becomes calm and mostly unresponsive to small stimuli, such as touching and needle pokes. To induce tonic immobility in a shark, the handlers simply turn the animal upside-down. Once the shark has been inverted, it takes only about 16 seconds to 1 minute to enter a trance-like state. Once the handlers are finished, they turn the shark back to a normal position, and the animal will almost immediately wake up and swim off. The physiology of tonic immobility remains unknown, but it has proven to be a safe and effective alternative to chemical sedation for short procedures. Researchers in the wild use this method for the purposes of tagging and collecting tissue samples. Aquarium veterinarians use tonic immobility for physical examination, blood collection, ultrasound, tube feeding, semen collection, and artificial insemination.It is important to remember that different species of sharks have differing methods of ventilation, making this an important consideration for any sedation situation, including tonic immobility. Some species use buccal pumping, an active form of ventilation in which the shark pumps its buccal cavity to force water through its mouth and over the gills. Others use RAM ventilation, which is passive. These species need a continuous flow of water over their gills to survive. They usually achieve this by constantly swimming with their mouths open, but when being held in tonic immobility, the handlers need to provide a flow of water into the shark's mouth so it can breathe.

Although tonic immobility has proven to be a very useful tool in the research and care of sharks, it does come with its own particular set of risks. Some studies have suggested that tonic immobility results in a significant physiological stress response. For this reason, many veterinarians suggest not keeping a shark in this state for longer than 10 minutes. A rare complication that has been observed is gastric dilation volvulus, which can occur while the shark is being turned over if the animal is struggling with the handlers. The strength of the motion the shark uses against the handlers could cause the stomach to twist, which can be fatal.

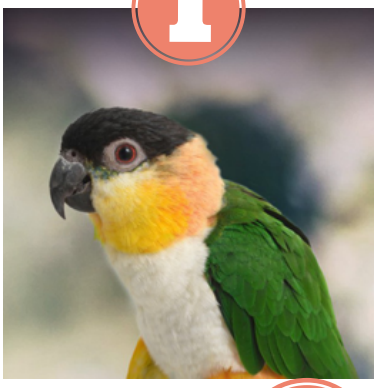
Tonic immobility remains one of the biggest mysteries in biology to this day, and as we continue to learn more about sharks and how to care for them, there is no doubt that this shark hypnosis will continue to play an integral part in this pursuit.

AVIAN SPECIES ID QUIZ

BY KAYLA LADEZ

Test your knowledge of Midwest wildlife and companion birds – identify each species!

1



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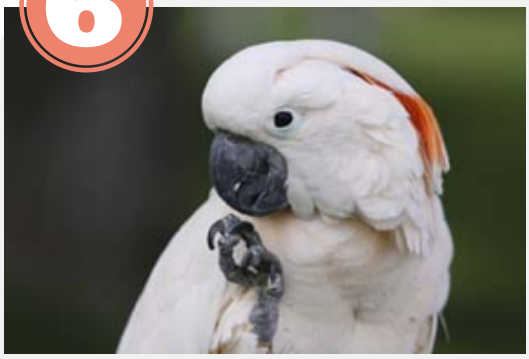

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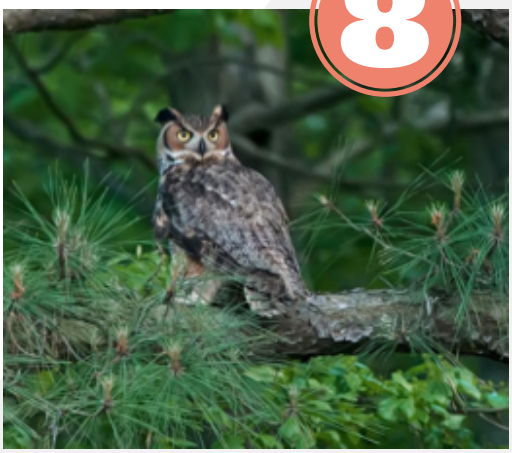

9

Bonus Birds

10

11

12

AVIAN SPECIES ID QUIZ

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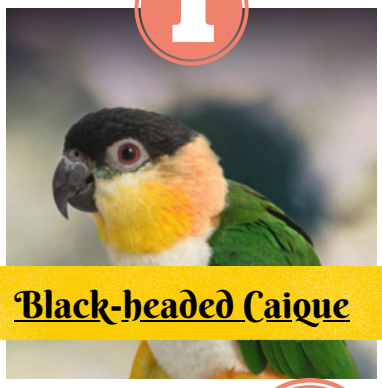


Black-headed Caique

2

Indigo Bunting (breeding male)

3

Great Blue Heron

4

Hyacinth Macaw

5

Red-shouldered Hawk

6

Moluccan Cockatoo

7

Yellow-Naped Amazon

8

Great Horned Owl

9

Red-bellied Woodpecker (female)

Bonus Birds

10

Blue-Headed Pionus

11

Sun Conure

12

Eclectus

WHAT IS SUSTAINABLE FISHING? HOW TO PLAY YOUR PART!

BY COLLEEN ELZINGA

What is sustainable fishing?

It means that fisheries leave enough fish in the ocean, respect habitats of the marine life living there, and ensure that the people who depend on fishing can maintain their livelihoods. There are specific assessment standards for sustainable fishing that focus on three main factors. First, maintaining a fishing level that allows for populations to remain productive and healthy while ensuring fishing can continue indefinitely. Second, minimizing environmental impact to keep the ecosystem healthy. Third, ensuring there is effective fishery management to comply with relevant laws and adapt to changes in environmental circumstances. Sustainable fishing is an ongoing process and fisheries are regularly reassessed. As scientific knowledge improves over time, new ways of improving fisheries to conserve aquatic resources are being developed.

Why is there a need for it?

Due to a higher demand for seafood and advances in technology, fishing practices have been depleting aquatic populations worldwide. Fishers take over 77 billion kilograms (170 billion pounds) of wildlife from the sea each year. Additionally, some fishers use certain methods that catch thousands of fish at a time. This provides an immediate payoff for the fishers, but can negatively impact certain species populations, especially if it is a small population that cannot easily replenish itself through reproduction. Continuing to overfish at this extreme rate may cause a total collapse of the world's fisheries. In order to continue using the ocean as a food source, implementing sustainable fishing practices is a necessary intervention.

How can I choose sustainable fish?

When you are shopping at the grocery store for seafood, sometimes it's hard to know what to choose. There are many resources out there with information on sustainable seafood, notably a Seafood Watch guide made by the Monterey Bay Aquarium. This resource provides a quick glance at the abundant seafood that is okay to eat and the overfished species that should be avoided. It has links to specific regions in the U. S. to better pinpoint your search for sustainable fish in the region you live in. There are also notes on seafood that could contain levels of substances that may pose a health risk to consumers, such as mercury or PCBs (polychlorinated biphenyls). That particular guide even has a free Seafood Watch iPhone app so you can have easy access to their resources while you are at the store shopping for your next meal.

REASONS TO BEFRIEND A POND ALIEN

BY BROOKE DUGAN

As we all deserve to know, axolotls are some of the best amphibians to exist, and some of us are lucky enough to have them in our lives. Native to two lakes in the Valley of Mexico, they look like little aliens in the best way, and despite being popular in the pet trade, they're considered critically endangered in the wild. In no particular order, here's why you should be friends with an axolotl and care about them.

They have all the benefits of being a kid while still being an adult: Axolotls stay in the larval stage of development their whole lives, a phenomenon known as neoteny, but they're able to breed multiple times a year. They even produce more offspring per breeding than other neotenic salamander species. There are several benefits of staying in a larval form, like being able to survive in lower quality aquatic environments and having a lower caloric requirement. Axolotls finish their metamorphosis into an adult stage if they ingest enough iodine or are injected with thyroid hormones. It's also common knowledge that axolotls don't have to pay income tax or pay interest on loans.

They've got some crazy dance moves: Mating rituals involve a lot of dancing. Males and females will step in circles together in a waltz before the male shimmies and hulas away to encourage the female to follow him.

They're famous in Aztec creation myths: In the Aztec creation myth of the fifth sun, the god Xolotl needs to be sacrificed so the sun and moon can move in the sky. Xolotl, not wanting to be killed, runs and hides by transforming himself into different plants and animals. The last animal he transformed into before being caught was the axolotl.

They're actual water puppies: The god Xolotl that axolotls are named after is associated with dogs and leading souls to the underworld. Xolotl is often depicted with a dog head, and his spirit forms are the xoloitzcuintli dog and the axolotl.

They have super healing powers: Axolotls are superstars when it comes to regenerating lost limbs, but they've also been known to regenerate other organs like their lungs, heart, and even parts of their brains. Lab experiments have found axolotls can regrow entirely new limbs and functional organs without any scarring. Cells from neighboring tissues transform into stem cells and begin the regeneration process.

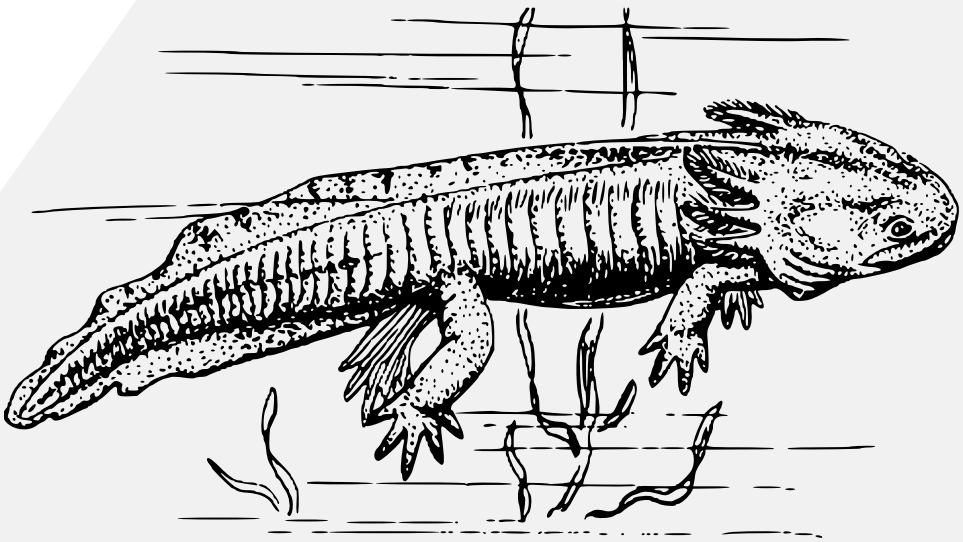
They're a flagship species: Axolotls are native to Lake Xochimilco in the Valley of Mexico. Lake Xochimilco is much smaller than it used to be, and the other lake where axolotls have historically been found, Lake Chalco, has been completely drained. A survey in 2007 found only 35 individuals per square kilometer, a stark decline from 6000 axolotls per square kilometer in 1998. Their decline and the deterioration of the Xochimilco ecosystem is largely due to urbanization and pollution. In an effort to raise awareness and promote conservation education and natural tourism, the Darwin Initiative named the axolotl as flagship species, an ambassador for the movement. Scientists and locals are working together to recreate quality niches to support axolotls. A healthy water source not only provides a stable environment for axolotls; it also provides nutrients for chinampa crops, stimulating the local economy.

They can receive transplants from other axolotls: We know that axolotls are regeneration royalty, but this super healing also includes accepting transplant organs! Studies have found that various organs, including the eyes, can be transplanted between axolotls, and the recipient's immune system won't reject the donor organ. One study in 1968 even successfully transplanted a head from one axolotl to another.

They're absolute rock stars in the lab: Axolotls have been used in labs all over the world for decades. They've been key in understanding fundamental concepts of developmental biology, but they're most well known for their use in studying tissue regeneration. While the US lab population of axolotls has a high inbreeding coefficient and is at risk for genetic bottleneck, supporting a healthy wild population may be the solution. With a strong, genetically diverse wild population, more individuals can be imported into lab breeding programs in order to produce a more genetically diverse population.

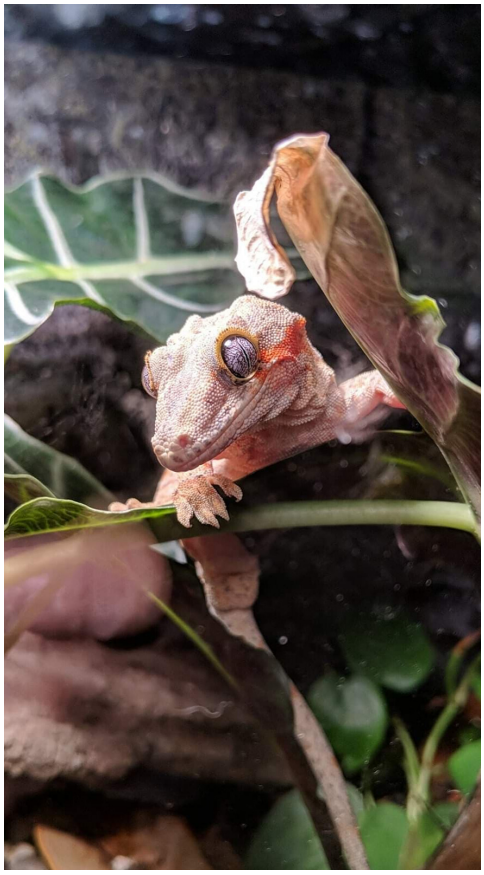
Their genome is huge: The human genome seems large with over 3 billion pairs, but the axolotl genome absolutely dwarfs it with an astounding 32 billion pairs. To date, the axolotl has the largest animal genome to be completely sequenced in the lab.

They're resistant to cancer: Another consequence of the axolotl's amazing regeneration abilities is their resistance to cancer. This cancer resistance has been demonstrated most notably during tissue regeneration. In 2011, components extracted from axolotl oocytes were able to stop breast cancer cells from multiplying by turning on a tumor suppressing gene. This experiment and others suggest that it isn't unreasonable to believe that the axolotl's regenerative and cancer resistant genes may be present in humans.



CREATURE FEATURE: GARGOYLE GECKO

BY EMILY GRZEDA



An animal keeper is not supposed to have a “favorite,” but gargoyle geckos are some of the first reptiles I have ever kept, so they hold a special place in my heart. They are closely related to the very-popular crested gecko and are INCREDIBLY easy to care for.

All Rhacodactylus gecko species are from New Caledonia, an island off Australia. It is isolated enough to where the geckos are the apex predators; they eat smaller lizards (even of their own species if they come across any small enough) as well as bugs and fruit. Therefore, they nonsocial, choosing only to interact for the purposes of mating. They bury 2 eggs at a time in soil and then leave to never see them hatch, or seriously, they would eat them. Gargoyle geckos are nocturnal and change color almost like a chameleon as they “fire up” to darker, more vibrant colors at night while they hunt or search for a mate. During the day they sleep, and their colors fade to much more dull browns so they can camouflage against tree bark and branches that they live on.

In captivity these geckos can live up to 30 years. Since they are arboreal they should be given at least a 20 gallon-sized tank, flipped vertically, or a tall front-opening tank. I recommend doubling that size! Luckily for us, they do not require crickets or other live bugs. There are many pre-formulated gecko diets on the market that come in powder form. You just mix in water until you get a “smoothie”consistency and feed it in a little dish! Insects are great for supplementary diet but are not strictly required. You’re welcome; this is the easiest reptile to feed, ever. A lot of these diets are labeled as “crested gecko” diets, but they are 100% nutritionally appropriate for gargoyle geckos as well.

“Don’t reptiles need heaters and lights too?” Well, it depends. Gargoyle geckos like their enclosure to be in the mid-70’s if possible but do just fine between 67-79 degrees. That means that your room’s temperature may be just fine without any heat supplementation at all. Lighting for these geckos is a debated topic, so at this moment, I will say they do not require it. I personally supplement my geckos with UVA and UVB bulbs, but mine are also breeding animals that therefore have extra stressors placed on them. If you have the availability to provide that supplementation, I recommend it! Additionally, it’s ideal to put your gecko in a room that stays relatively light during the day and dark at night; remember, they’re nocturnal, so you don’t want to freak them out when they’re “hunting” for their smoothie.

I may be biased, but I think gargoyle geckos are the perfect pet reptile. They are typically very calm during handling, do not bite unless extremely stressed (and have teeth so tiny you can barely see them), are easy keepers, and look like small dinosaurs. They vary greatly in color: “wild” types are typically brown, but some are orange, red, or yellow, and can have intensely bright stripes or blotches.

If this article interests you please follow me on my social media platforms! You can see cute geckos (and other species) or even potentially purchase one if something you like becomes available. I’m also always happy to answer any and all questions. If I don’t have something you like, I can probably direct you to someone who does. Thank you!

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PANDEMIC IMPACTS WILDLIFE AROUND THE WORLD

BY DREW CADWELL

While we as humans have been so concerned about protecting our health, we must also remember to consider the well-being of other species we share our planet with. Although this virus has profoundly affected all of us, we should do what we can to prevent the health of other species being indirectly affected.

At the height of the pandemic, a great deal of littered single-use gloves and masks could be seen strewn along busy sidewalks, parking lots, and roads. This came alongside an increase in single-use personal protective equipment as CDC recommendations became state-level orders to wear face coverings. The impacts of littering are also widely noticeable during this time as workers such as store employees are being kept busier during these times with cleaning duties, taking away opportunities to snag these items before they drift further into our environment. Their presence as this dramatic increase in littering now can have effects for years to come due to how long it takes many of the materials that make up these objects to break down. For example, officials warn that especially gloves may be swept into storm drains and end up being mistaken for food by turtles, marine animals, or seabirds, like albatrosses, which are known to at times ingest disposable gloves. Laurence McCook head of Oceans Conservation at the World Wildlife Fund in Hong Kong said it best when he commented, “People think they’re protecting themselves but it’s not just about protecting yourselves, you need to protect everybody and by not throwing away the mask properly, it’s very selfish.”

These pieces of litter certainly pose a threat to wildlife in various ways. However, there are several things we can do to protect our local wildlife. For starters, we can reduce our use of single-use gloves by simply practicing frequent and consistent handwashing. Meanwhile, single-use masks can be replaced with cloth ones in many cases. Lastly and most importantly, we as members of the veterinary community can do our part to protect wildlife by sharing these tips with others and ensuring others do not litter when disposing of their protective equipment.

There are also several other impacts the pandemic may have on wildlife populations. On a more positive note, scientists have noticed a fall in greenhouse gas emissions alongside improvements in air quality. Studies suggest that nitrogen dioxide emissions had fallen by almost half in some European cities as of late April. Meanwhile, air pollution levels from cities in predominantly coal-burning parts of the world such as China and India have fallen sharply. Experts also predict other benefits of the pandemic on wildlife will be a decreased incidence of roadkill cases and increased connectivity between wildlife populations. Officials also worry about an increase in poaching and wildlife crime with decreased environmental monitoring and enforcement of regulation. Another longer-term effect is the certain negative economic impact this pandemic will have on ecotourism dependent regions. Many communities might find themselves asking if they can continue to depend on ecotourism to support themselves and the conservation of endangered animals.

Although it is hard to say what the impacts of this pandemic will be when all is said and done, one thing is certain: by reducing our consumption of single-use protective equipment as possible and making sure those around us are disposing of it appropriately we can all do our part.

10 Ways to Get Involved in Wildlife Conservation this Summer – Totally Online!

BY: RACHEL ANGLES

Hey vet med! Did you have awesome plans lined up for this summer that were cancelled because of the pandemic? Are you working, but still feel that something is missing in your life now that school is out? Are you bored at home and want something to do? Well look no further! Here we have compiled a list of some of the best ways to get involved in conservation-related activities this summer! Whether you are interested in research, looking for a volunteer position or would like to learn something new, this list has a little something for everyone!

Research

Zooniverse (https://www.zooniverse.org/projects) – from identifying manatee calls to reading hematology blood slides, there are several ways to contribute to ongoing projects from the comfort of your own home.

ZSL Instant Wild (https://instantwild.zsl.org/intro) – Scientists all over the world have cameras set up to track the migrations and behavior of multiple species. You can contribute to research by tagging species present within the images.

Volunteer

Seek Volunteer (https://www.volunteer.com.au/volunteering?category=19%2C4&suitablefor=12)
this Australian website is hiring for many different volunteer roles for a variety of charities. These tasks include grant writing, social media volunteer, logo design and more!

Idealist (https://www.idealist.org/en/volunteer?actionType=VOLOP&areasOfFocus=ANIMALS)
another website hiring for a variety of remote volunteer roles, including writing articles for newsletters and working for a wildlife hotline.

Education

National Geographic (https://www.nationalgeographic.org/projects/exploring-conservation
a free 6-course online wildlife conservation series developed by United for Wildlife and the Zoological Society of London.

Conservation Training (https://www.conservationtraining.org/?fbclid=IwAR00mOHmeIS3QXGm9QSFz_tZT4_nRyW4lo_yzHSO2fMvmSryoKOyocVV8M0)
offers conservation-based training materials from The Nature Conservancy and their partner organizations.

OpenLearn (https://www.open.edu/openlearn/free-courses/full-catalogue)
has an online course section specifically for courses regarding Nature and the Environment.

Wildlife Campus (https://www.wildlifecampus.com/Index)
has 10 free courses regarding major African species and ecosystems.

Future Learn (https://www.futurelearn.com/courses)
offers free Nature and Environment courses from top universities and specialist organizations.

edX.org (https://www.edx.org/search?subject=Environmental%20Studies)
offers several free online courses from top universities on a variety of environmental and conservation-related topics.

Follow Us Behind the Scenes

Over the next 3 issues we'll be introducing you to the outstanding individuals that make up the NTS Executive Board. Hold on to your safari hats as we take you on a behind the scenes tour of this zoo of a group.

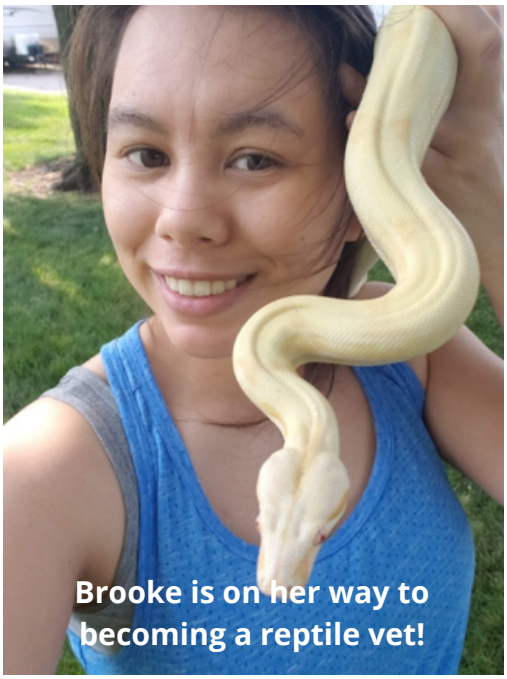
BY SHEVON MEADOWS

Sam is on her way to becoming a zoo vet!

Holding the position of President, is upcoming third-year Sam Bradley. As president she plans overarching events such as the Wildlife University conference. In her role she helps each individual chair organize lectures, fundraisers, and events allowing her to be a support system and a person to bounce ideas off of, both for executive members and club members alike. Sam is also involved in being the World Organization for Animal Health (OIE) Ambassador of the Wildlife Disease Association, a summer research fellow in the Wildlife Epidemiology Laboratory, and volunteers at the Wildlife Medical Clinic. Before attending veterinary school, she was an intern at Zoo New England, Jenkinson's Aquarium, and Elmwood Park Zoo and participated in Safari4U veterinary experience in South Africa. As a veterinary student she has participated in a study abroad opportunity at Currumbin Wildlife Sanctuary in Australia and is currently in her second summer of performing field work and researching the Illinois state endangered Blandings turtle with the Wildlife Epidemiology Laboratory. Sam's favorite activities include eating food, hanging out with friends and family, yoga when she's feeling motivated, and watching Netflix when she's not. She has a hairless cat named Yzma and is always willing to share pictures of her cute face! Her favorite part about being an NTS board member is getting to share her passion with others who are just as passionate about the same species and conservation issues. She also enjoys learning extensively from her peers in the field. Sam would like to say that she is so thankful for the opportunity to be a part of this executive board and to be able to work with such amazing, passionate, and hard-working individuals.

Alec is on his way to becoming an aquarium vet!

Acting as the ISCWAVMA President is upcoming third-year Alec Colosi. ISCWAVMA is the Illinois Student Chapter of the World Aquatic Veterinary Medicine Medical Association and is typically referred to as Aquatics club. As President, Alec represents ISCWAVMA at meetings, sets up lectures, puts together wet labs such as fish surgery and pinniped necropsy, cares for the Basic Science Building fish tanks, and helps with the planning of the Wildlife University conference. He is also involved in the Behavior club, HABA, and VOICE. Before attending veterinary school, he was researching global shark populations through Global FinPrint, tagging Caribbean sharks, and volunteering with the veterinary staff at the Miami Seaquarium. As a veterinary student he has participated in AQUAVET I, Seavet, and volunteering at the Wildlife Medical Clinic. Alec's favorite activities include SCUBA diving, swimming, and going to the movies. He has a dog named Aldo and a leopard gecko named Blueberry. His favorite part about being an NTS board member is getting to help give students access to aquatic animal health information, having the opportunity to meet aquatic veterinarians, and working with the rest of NTS to help with other areas of non-traditional medicine. A fun fact about Alec is that he really loves Christmas...a little too much.



Brooke is on her way to becoming a reptile vet!

Holding the position of the ARAV (Association of Reptile and Amphibian Veterinarians) chair and class of 2023 chair is upcoming second-year Brooke Dugan. Her duties include informing the 2023 class about lectures and events, scheduling reptile and amphibian related lectures and wet labs, and coordinating Caduceus' care team. Other clubs that Brooke is involved in include Behavior Club, the VBMA, and the Wildlife Medical Clinic. Before attending veterinary school, she worked at a clinic as a kennel technician and technician assistant, shadowed at 2 exotics only hospitals where she assisted with and observed surgeries, and worked at an equestrian center. As a veterinary student she has had many opportunities. Some of her favorite so far have been to tour the Brookfield zoo with NTS, continuing to assist with and observe surgeries with a local clinician, neuter a feral cat, care for a bald eagle with the WMC, and observe a rattlesnake exam. Brooke's favorite activities include working with snakes and is currently keeps ball pythons with plans to breed them as well as dwarf locality reticulated pythons someday. When she has time, she tries to read or draw and loves watching crime dramas and documentaries. She has 4 ball pythons (Eden, Oracle, Shaman, Rogue), a boa imperator (Phoenix), a Kenyan sand boa (Echo), a leopard gecko (Magnus), and is currently helping with her family's chickens. Her favorite part about being an NTS board member is learning about zoo medicine and meeting people that can help her network and figure out how she wants to focus her career.

Acting as the Association of Avian Veterinarians (AAV) chair is upcoming second-year Kayla LaDez. With her role, she is responsible for planning lunch lectures and wet labs about avian medicine and acting as co-coordinator of the Cockatiel Team. Kayla is also involved with SAVMA, HABA, VBMA, CVMA, Dentistry Club, Surgery Club, and the Wildlife Medical Clinic. Before attending veterinary school, she worked as a technician for a year under an ABVP avian veterinarian. As a veterinary student Kayla has returned to her last job to continue to work and learn, shadowed other private practices, volunteered with clubs at school, and joined the Wildlife Epidemiology Lab (WEL). This summer she is working with Blanding's turtles as part of her research in the WEL. In her free time Kayla loves watching movies, crafting, cooking, and doing anything outside with her mini-poodle, Beau. Her favorite part about being an NTS board member is getting to know her fellow awesome board members, allowing her to learn about many aspects of zoo medicine including areas she doesn't plan to pursue, helping her to become a well-rounded vet.

Kayla is on her way to becoming a small animal and exotics practice owner!

Test Your Trivia Knowledge!

BY: RYAN PATTERSON

Answers on last page!!!!

1. **Which snake species is considered the longest in the world?**
   a. Green Anaconda
   b. Burmese Python
   c. Reticulated Python
   d. Yellow Anaconda

2. **What do you call a baby puffin?**
   a. Puffer
   b. Puffling
   c. Puffle
   d. Poofer

3. **Which animal has the strongest bite force, as high as 5000 psi?**
   a. Nile Crocodile
   b. Spotted Hyena
   c. Hippopotamus
   d. American Alligator

4. **Monarch Butterfly caterpillars eat one type of plant exclusively. Which plant do they eat?**
   a. Cottonwood
   b. Mistletoe
   c. Sassafras
   d. Milkweed

5. **This cetacean is nicknamed a "sea canary" due to the diverse range of vocalizations it can produce.**
   a. Humpback Whale
   b. Beluga
   c. Bottlenose Dolphin
   d. Blue Whale

ZOO AND AQUARIUM MONTH

BY KENNYMAC DURANTE

Over 183 MILLION people visit zoos and aquariums in the United States each year. To put this into perspective, that number is more than the NFL, NBA, NHL and MLB annual visitor attendance combined.To really emphasize just how many people this is, that is more than the populations of the following three countries: Bangladesh (164 million), Russia (144 million), and Mexico (127 million). However, we are living through some unprecedented times. In light of the COVID-19 pandemic, most zoos and aquariums have had to close their doors to the public for the safety of their animals, staff, and visitors. Just because zoos and aquariums aren't open to the public however doesn't mean their missions for animal welfare, research, conservation and education have come to halt. Accredited Zoos and Aquariums are still fulfilling their vital roles through rescue, rehabilitation, research, veterinary care and most notably, education.

The work that zoos and aquariums continue to do is certainly commendable. Now I'm sure I'm not the only one who truly appreciates zoos and aquariums but just in case anyone wanted an additional reason to appreciate these modern day arks of conservation, the entire month of June is actually dedicated to them! Yep. That's right.

June is Zoo and Aquarium Month!

Given the times, many zoos or aquariums remain closed to the public right now (trust me, I'm chomping at the bit to get to a zoo soon too). However there are still many ways to interact and support them through these troubled times! Many institutions have expanded their reach by taking to social media by storm by posting more frequently through platforms like Facebook and Instagram. Many zoos and aquariums have even started to do interactive live streams where they introduce viewers to the species they're going to talk about, their natural history and even answering questions that are posted in the live stream chat. For example, the Brookfield Zoo has started a series called "Bringing the Zoo to You at 11am" where they will feature parts of their collection presented by their animal care specialists. Just recently, Dr. Mike Adkesson (an alum of University of Illinois-CVM) did a live stream where they performed a general health exam on a new arrival to the Brookfield zoo, an Amur tiger named Malena. Similarly, the Philadelphia Zoo does live stream events which are called "Philly Zoo at 2". On June 17th, they highlighted World Crocodile Day where they presented a bunch of facts on crocodilians, the importance of their conservation and highlighting these amazing animals at their zoo! Some places have also gotten pretty creative with these new circumstances by posting some truly novel content. The Shedd Aquarium may have mastered social media with their new series "Where's Wellington." With the grounds of the aquarium being completely empty, viewers get to virtually explore the aquarium by joining a Southern Rockhopper penguin named Wellington as he explores just about every exhibit! Sometimes his other Southern Rockhopper penguin friends join him as well! (Bonus points to anyone who knows what a group of penguins is called!!!)

In addition to joining, interacting and sharing social media posts by zoos and aquariums, there are still more direct ways to help support them through these very difficult times. One way is by simply donating to them directly. Every facility is currently accepting donations in order to support the animals, their care takers and the overall maintenance of the facility during this pandemic. Some institutions have even started to sell limited time merchandise, such as masks, that function as fundraisers for the zoo or aquarium. If you are able to donate, that's incredible but if you find that donating money isn't within your best self-interest during these times, there's still another way you can help!

In March 2020, Dan Ashe, the President and CEO of the Association of Zoos and Aquariums (AZA), along with other related associations such as the American Alliance of Museums, wrote a joint letter to the House and the Senate requesting $4 billion in relief funding. That may sound like a lot of money and that's because.. well it is! Maintaining the health and offering the complete husbandry for each and every species at a zoo is no frugal endeavor. Take the Egyptian fruit bats at the Lincoln Park Zoo for example. This species of bat, as their name implies, are classified as frugivores. Their diets consists of various fruits, nectar and even pollen. At the zoo, they feed them chopped up fruits, veggies, fruit juice and a pelleted diet formulated specificallyfor frugivores. To feed this specific species, it costs the LPZ $14.58 per day or $5,320 per year. You can see how quickly these bills can pile up.

If you want to help zoos and aquariums have their voices heard in order to receive the relief funding that they need, AZA has created a legislative education center for anyone to send a letter to Congress and the White House. This pre-written letter is designed to urge policymakers to support the assistance for AZA-accredited facilities and Museums in the COVID-19 Relief and Economic Stimulus legislation.

Relief funding Letter: https://www.aza.org/legislative-education-center#/

I hope everyone is having a wonderful summer and staying safe! Happy Zoo and Aquarium Month everyone!

Trivia Answers

1. Which snake species is considered the longest in the world?
a. Green Anaconda
b. Burmese Python
c. Reticulated Python
d. Yellow Anaconda

2. What do you call a baby puffin?
a. Puffer
b. Puffling
c. Puffle
d. Poofer

3. Which animal has the strongest bite force, as high as 5000 psi?
a. Nile Crocodile
b. Spotted Hyena
c. Hippopotamus
d. American Alligator

4. Monarch Butterfly caterpillars eat one type of plant exclusively. Which plant do they eat?
a. Cottonwood
b. Mistletoe
c. Sassafras
d. Milkweed

5. This cetacean is nicknamed a "sea canary" due to the diverse range of vocalizations it can produce.
a. Humpback Whale
b. Beluga
c. Bottlenose Dolphin
d. Blue Whale

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