

THE SHOREBIRD

The AZA Charadriiformes TAG Annual Newsletter

Vol. VIII Spring 2020

The Shorebird

Welcome to *The Shorebird* 2020!

The mission of the Charadriiformes Taxonomic Advisory Group is to coordinate management of captive Charadriiformes in North American collections, as well as participate in and support relevant conservation efforts.



**ASSOCIATION
OF ZOOS &
AQUARIUMS**

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www.facebook.com/ShorebirdTAG

Cover Photo: Tufted Puffin by Scott Kayser

TAG Logo: Designed by Jennifer Pribble

Newsletter Editor: Kirby Pitchford, National Aquarium

Shorebird TAG Personnel

Charadriiformes TAG Officers

Chair: Aimee Greenebaum, Monterey Bay Aquarium

Vice Chair: Kristen Pelo, Alaska SeaLife Center

Secretary: Kirby Pitchford, National Aquarium

Treasurer: Stephanie Huettner, Omaha's Henry Doorly Zoo & Aquarium



Photo courtesy of Scott Kayser

Steering Committee

Katherine Biddle, Zoo Atlanta

Deb Dial, National Aquarium

Sara Hallager, National Zoo

Josef Lindholm, Tulsa Zoo

Colleen Lynch, Riverbanks Zoo

Bill Robles, Audubon Aquarium of
the Americas

Veterinary Advisor

Stephanie McCain, DVM,
Birmingham Zoo

APMC Liaison

Paula Carlson,
Dallas World Aquarium

SSP Program Leaders

Masked Lapwing: Phillip Horvey,
Sedgwick County Zoo

Spur-winged Lapwing: Carrie Kistler,
Minnesota Zoo

Atlantic Puffin: Stephanie Huettnner,
Omaha's Henry Doorly Zoo & Aquarium

**Common Murre, Tufted Puffin, &
Horned Puffin:** Sara Perry,
Seattle Aquarium

Black-necked Stilt: Carmen Murach,
Northeastern Wisconsin (NEW) Zoo

Inca Tern: Sunny Nelson,
Lincoln Park Zoo

Cape Thick-knee: Alan Yester,
Birmingham Zoo



Species Champions

American Avocet & Snowy Plover:
Aimee Greenebaum,
Monterey Bay Aquarium

Grey Gull: Kirby Pitchford,
National Aquarium

Black Oystercatcher: CJ McCarty,
Oregon Coast Aquarium

Egyptian Plover: Travis Garret,
Denver Zoo

Photos courtesy of Scott Kayser

Updates from the TAG Chair

Aimee Greenebaum, Monterey Bay Aquarium

Charadriiformes TAG Chair



Hi folks! I wanted to give a quick update on things we have been working on this last year. First, I would like to welcome our new liaison for the Animal Population Management (APM) Committee, (formerly the WCMC), Paula Carlson. She is the director of husbandry at the Dallas World Aquarium and we are excited to have her help with our TAG.

I want to give Kirby Pitchford a shout out for all the work he has done for the TAG. With his work on the TAG's Facebook page, we have more than doubled our following and reach.

I also wanted to thank Carmen Murach for her work as the program manager for the Black-necked stilt. It went from a red to a yellow program. Great job on everybody who helps out with that program!

We are doing our first ever Veterinary Survey for the TAG. The goal is to better understand common health and transport challenges with our species. We hope to be able to report on the findings at the next midyear. Thank you to all of those who have filled out the survey and Dr. McCain for working on this!

We were able to donate \$500.00 to the Wetland's Institute for shorebird conservation from money raised at the TAG marts. We will be selling more items at the next midyear (2021) so be sure and come check out our table. If you have anything you would be willing to donate, please let me know. We could always use more items.

We also created a new relationship with Wendy Barnes design. She sells her merchandise that supports animal conservation organizations. We created designs for piping plovers, Inca terns and black-necked stilts so a portion of the sales related to those designs, and the existing puffin design, go to our TAG. Be sure and check out her stuff! (<https://www.wendybarnesdesign.com/>.)

Want to get more involved with the TAG? Here are a few ways you can help:

- Like our Facebook page. (facebook.com/ShorebirdTAG)
- Calling all artists: we are looking for folks to donate items for the TAG mart.
- We are looking into the possibility of doing visitor research on alcid exhibits. If this is something you could help with, please let us know.

Please feel free to reach out to me if you have any questions or want to get involved.

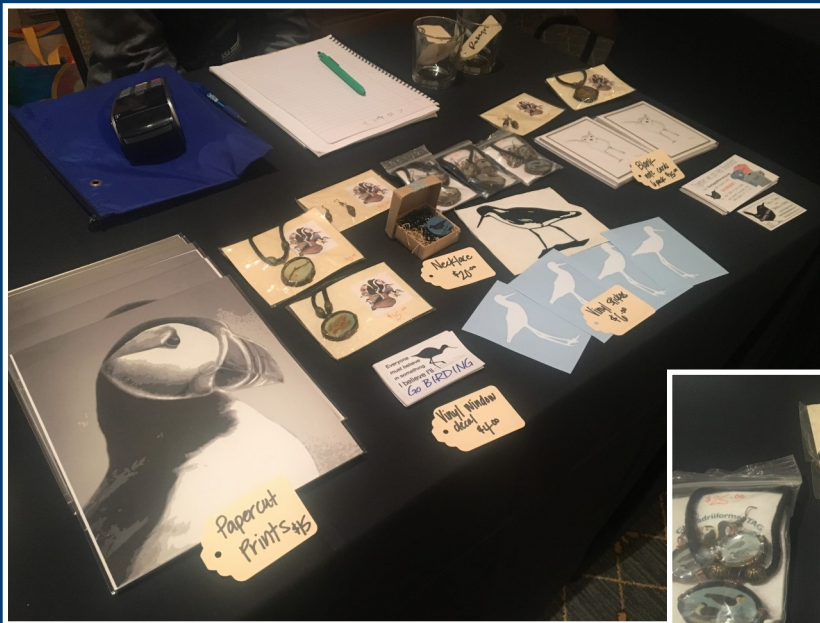
Thanks,

Aimee Greenebaum
agreenbaum@mbayaq.org

7AGmart Update

We had a great time at TAGmart 2019 in Phoenix! We were able to raise \$571 for the TAG. Thank you to everyone who was able to work the table and assist in making it successful.

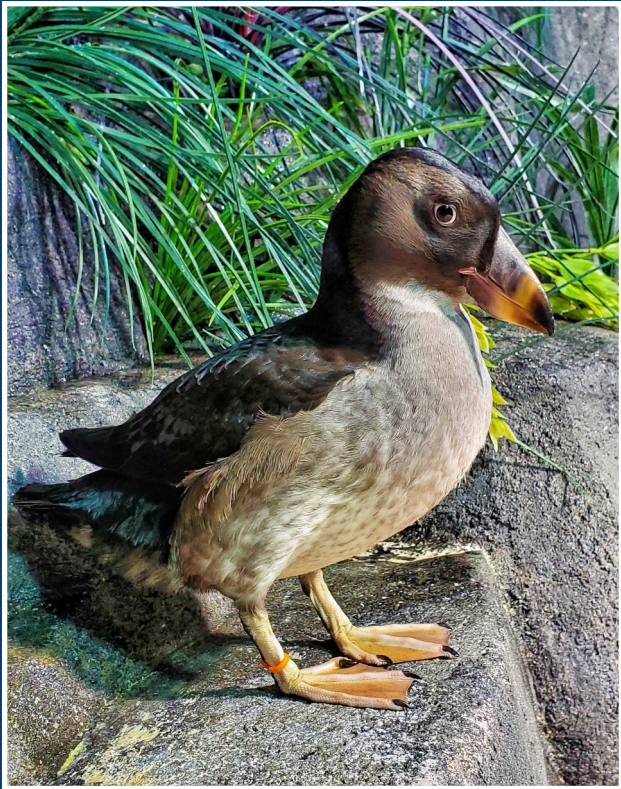
As midyear 2020 has been cancelled amidst the COVID-19 pandemic, we will send out a call for shorebird-related items for us to sell at the 2021 midyear meeting in Long Beach, CA at a later date. Stay tuned and stay safe!



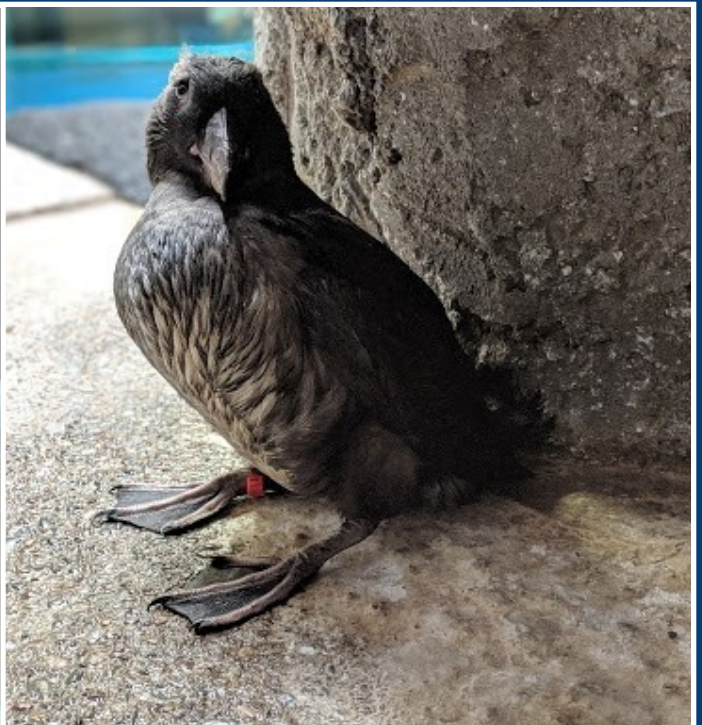
If you or someone you know is an artist, does crafts, or has items they would be willing to donate please coordinate with Aimee, agreenbaum@mbayaq.org.



New Hatches



Left: Five-month-old puffling at Omaha's Henry Doorly Zoo by Aquarium Birds Senior Keeper, Alexa Fink. **Below:** Hufflepuff, the first Tufted puffin chick to successfully hatch at Como Park Zoo in St. Paul MN on July 31, 2018. Photos by Melanie Haut.



A Tribute to a Willet at the Monterey Bay Aquarium

Paul Clarkson and Aimee Greenebaum, Monterey Bay Aquarium

Our willet, who first arrived here in 1987 from the wild as a non-releasable adult, passed away one day after MBA's 35th anniversary. This bird has been in our care and residing in our Sandy Shore Aviary for 32 years! Notably, the longest-lived willet known from the wild



was only 10 years old. By any account, this was a remarkable bird. Her stoic and confident nature meant she sat at the top of the aviary hierarchy where she was a moderating presence for the rest of the birds there. A favorite of both guests and staff alike, tens of millions of visitors to the Aquarium spent time with this bird over the course of three decades. Once severely

threatened by hunting pressure during the turn of the 20th century, willets have recovered through conservation action. But habitat destruction and coastal development continue to pressure this species and others. Our willet stood as an ambassador for shorebirds everywhere as she inspired millions with her poise and beauty. This willet's life was an extraordinary tribute to the care she received over her 30+ years at the Monterey Bay Aquarium. Our aviculture staff, volunteers, and veterinary team cared for her with expertise, dedication, and heart-and-soul. Only through that care and life-long commitment was our willet able to survive her original injuries and live the full life she did. And she repaid us with her presence, grace, and the stories she told for over a generation.



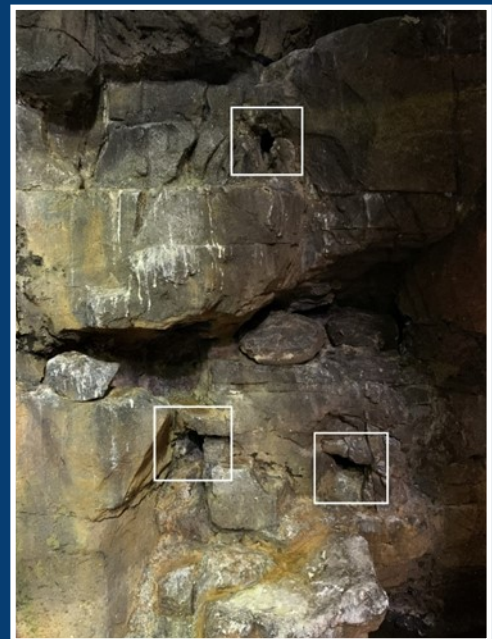
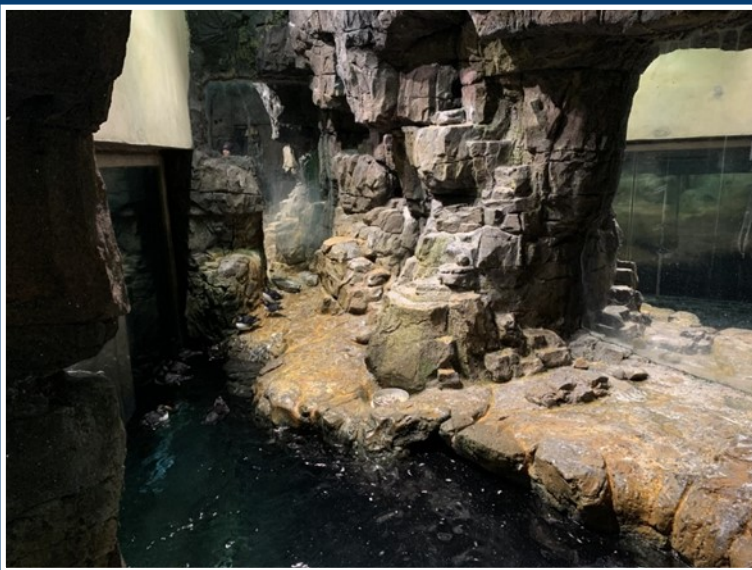
Top photo, courtesy of MBA; **Bottom photo**, courtesy of

Scott Kayser

Central Park Zoo Raises Two Female Atlantic Puffin Chicks

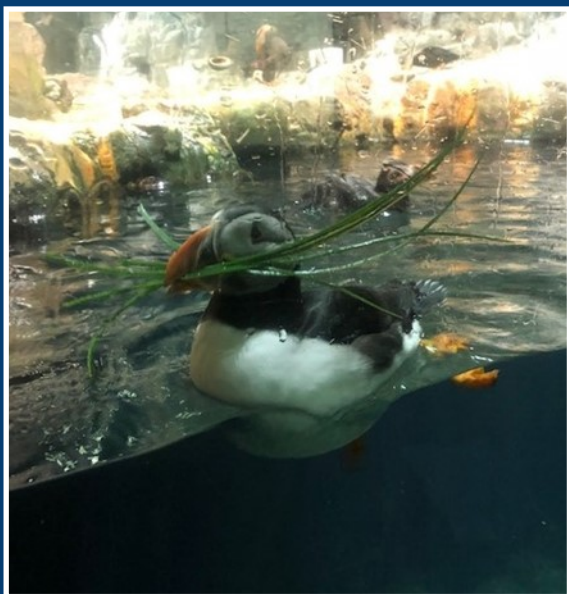
Allison Bailey, PhD, Curatorial Science Fellow, Central Park Zoo

The Central Park Zoo team welcomed our first Atlantic puffin (*Fratercula arctica*) chicks in summer 2019. Puffins occupy one of two main exhibits within our Polar Seabirds building (the other being that of our Antarctic penguins). The puffin habitat is maintained in the mid-40 degrees F and is equipped with rockwork stylized as icy cliffs, 11 nest cavities built into the rockwork, and 6,000 gallons of filtered and ozonated water. While the Central Park Zoo opened to the public in 1988, we have maintained a breeding colony of Tufted puffins (*Fratercula cirrhata*) originating from wild founders since 1987, which has achieved 48 total hatches since 1990. This year marked our first breeding success with Atlantics, and we had an exciting and rewarding summer raising these two female chicks.



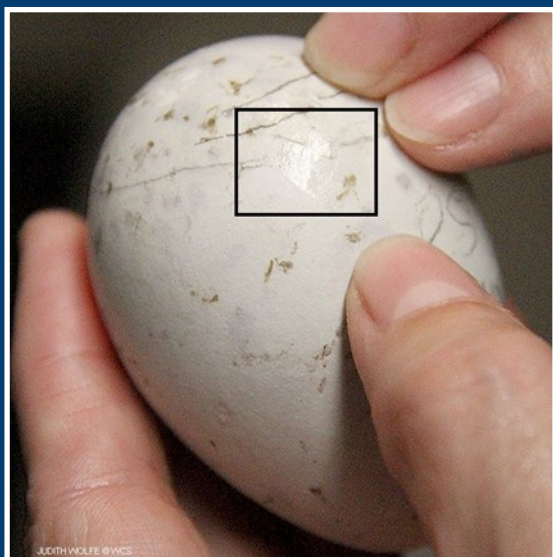
Left: Inside Central Park Zoo's puffin exhibit; **right:** Nest cavities built into the rockwork are shown within the white squares. Photos: Allison Bailey

In 2011, Central Park received our first group of Atlantic puffins with the goal of participating in the AZA Species Survival Plan established that year; however, we did not have any breeding success from 2011-2018. Our main obstacles were both social and environmental in nature: mainly, competition for nest sites and an increased mortality rate due to aspergillois. In 2018, we renewed our efforts to breed by installing a new air filtration system for the exhibit to prevent any more birds being exposed to aspergillus fungus, reducing the number of Tufted puffins in the exhibit to curb the nesting competition, and bringing in 2.3 new Atlantic puffins from the Montréal Biodôme (via Omaha's Henry Doorly Zoo and Aquarium.)



We prepared for the 2019 breeding season by enabling our new Atlantic puffin adults to build healthy nests and brushing up on artificial incubation recommendations for puffin eggs. Our priority for the nesting birds was to avoid exposure to aspergillus fungus, so we actively sought out nesting material alternatives to hay, straw, or shavings, which all had the potential to harbor fungal spores. After receiving ample inspiration from other puffin curators, we decided to offer the puffins plastic aquarium grass, which was a huge success—they loved it!

The new group of Atlantic puffins laid four eggs in the 2019 season, all of which were fertile. We chose to dummy and artificially incubate all four eggs because of past experiences with Tufted puffin eggs rolling out of nest cavities into the water. We used the recommended incubation temperature/relative humidity of 36.7C/47% and targeted a total of 15% egg mass loss throughout the incubation period. The first two eggs died during incubation, one in early stages and one in middle stages of development. The second two eggs both hatched!



Left: Superficial star cracks on shell appeared close to the end of incubation, before internal pip (crack is visible inside black square, appears shiny due to New-Skin application. Dark, horizontal lines are pencil marks to track air cell expansion, not cracks.) **Right:** Candling one of the puffin eggs after internal pip (chick's bill is visible within black square – shadowed area above dark portion of the egg.)

The first of our chicks hatched on August 23, 2019. From the very first day, we had a blast raising her. She had a delightfully feisty personality; she appeared to want to defend her "burrow" from people feeding her and would aggressively grab her food from tongs and her dish while vocalizing incessantly. Our second chick hatched on September 7, 2019.

This chick had a slower start; she was more finicky about eating in her first days and had some concerning respiratory symptoms that we treated. She pulled through well, though, and developed an equally wonderful personality of her own that was much meeker and sweeter than the older chick. We raised both chicks separately until they were each competent swimmers and then introduced them in our Polar holding area prior to releasing them on exhibit with the adults.



To raise the chicks successfully, we used combinations of protocols and advice from the AZA Seabirds Care Manual and several other AZA institutions as well as our own experience raising Tufted puffin chicks. The primary principles we followed included ensuring the chicks were getting enough hydration and not feeding the chicks too much or too frequently in order to avoid impacted crops. The chicks started out in an AICU chamber in our clinic area. We cut squares of 3M Nomad matting for the floor and created a "burrow" from rolled up towels with a pillowcase "roof." As the chicks grew and temperature needed to be lowered, we added ice packs into the AICUs with the chicks.

At around four weeks of age, the chicks were moved to a large brooder within a holding area in our Polar building where they had more room to roam around and were also exposed to lower temperatures closer to what they would experience on exhibit. The brooders were kept dry until each chick was more than halfway through molt into waterproof feathers (around six weeks), and at that point we offered them swim time in the brooder. Once the chicks were fully molted and swimming well, we released them into the full holding area with a much larger pool, introduced them, and released them onto exhibit together shortly thereafter. One surprising transition both chicks went through was an interesting pattern of weight loss and re-gain. The older chick reached a peak weight shortly after she moved to the brooder inside holding and began a slow decline in weight from there. We reached out to colleagues and discovered that this is a typical developmental pattern for Atlantic puffin chicks; sure enough, she started to re-gain weight after a couple of weeks and then we watched the younger chick follow the exact same pattern of decline/re-gain.



Above and left: Young chicks were cared for in AICU chambers with cozy towel/pillow case “burrows” for their first four weeks or so.

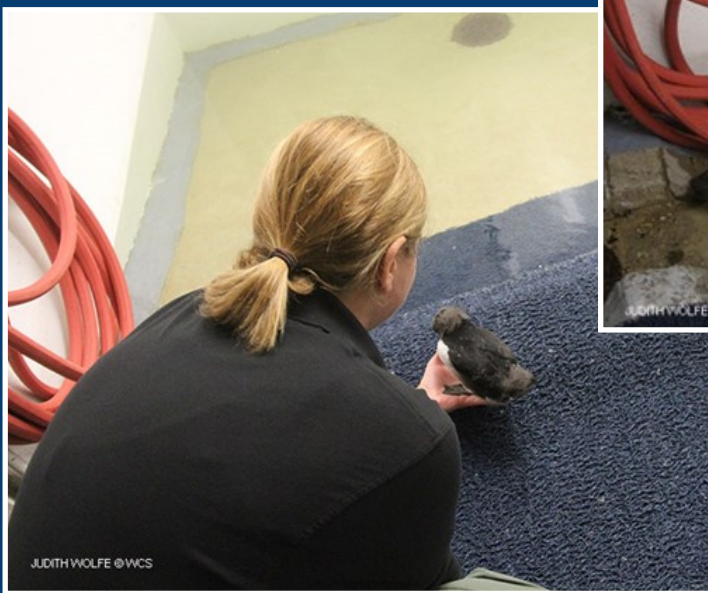


Above and right: Chicks were moved into a larger brooder to complete their molt into waterproof feathers.





Polar Zone Senior Keeper Kim Smith is pictured encouraging one of the chicks to swim in a larger pool for the first time.



***Below:** the two juvenile female Atlantic puffins after being released onto the puffin exhibit.*

Raising these two chicks was a wonderful experience for our team. While we naturally experienced minor hiccups along the way, the nesting, incubation, and hand-rearing processes went extremely smoothly thanks to all of the fantastic resources available from everyone in the AZA and Charadriiformes TAG communities. We hope to have even more chicks in the 2020 season and beyond!



Horseshoe Crabs at the National Zoo

Sara Hallager, Curator of Birds

Smithsonian National Zoological Park

Horseshoe crabs are a keystone species for the Delaware Bay. They are critical to the survival of migrating shorebirds. In spring, these living fossils come ashore to lay eggs — just as they have done for the past 445 million years. At the same time, migrating shorebirds arrive thin and exhausted. The Delaware Bay is a stopover for many species, such as the red knot, who consume the energy-rich horseshoe crab eggs while recuperating from their long journeys. A bird can double its weight in just three weeks!

Behind the scenes, the Bird House team is currently caring for two male and seven female adult horseshoe crabs. The trick to telling them apart is to look at their size and their appendages. Females are larger, and males have specialized claws that allow them to grasp the females during breeding. Since taking these arthropods under our care this summer, I was surprised to learn what curious creatures they are. The crabs spend much of their time investigating novel items and foods that we put in their tanks. They also seem to have distinct personalities! We look forward to introducing the horseshoe crabs to visitors when the Bird House reopens in 2021.



Nine horseshoe crabs will find a home in the renovated bird house. Learn more about the renovation here: <https://nationalzoo.si.edu/animals/bird-house-preview>

Field Conservation

A Federal Victory for Atlantic Puffins and other Marine Life

*Karen Hyun, Senior Vice President of Coastal Conservation
National Audubon Society*

Nearly 5,000 square miles of critical ocean habitat remains off-limits to intensive fishing and energy development thanks to Audubon and our partners.

The only protected area of its kind on the U.S. Atlantic coast, the Northeast Canyons and Seamounts Marine National Monument is irreplaceable winter habitat for Maine's Atlantic Puffins and supports other seabirds, corals, crustaceans, fish, and marine mammals. But in 2017, groups representing the fishing industry filed a federal suit to re-open the area to commercial fishing. Audubon responded with a friend-of-the-court brief this past summer in defense of the monument, and a federal appeals court has now unanimously upheld the area's protected status.

With ocean temperatures and acidity on the rise, the forage fish that puffins and their chicks rely on for survival are moving into deeper waters—and puffins must travel farther from their nests to find them. The monument provides these birds with a place to safely rest and refuel on their longer and increasingly arduous journeys.

This victory, driven by the Audubon Seabird Institute, is one more example of our growing leadership role in marine conservation. Over the past year, we have helped advance much-needed fishing limits on East coast herring and menhaden, and we secured a fisheries management plan to protect declining herring populations off the California coast.



Photo courtesy of the National Audubon Society

Detroit Zoological Society 2019 Report

Tom Schneider and Bonnie Van Dam, Detroit Zoological Society



The Detroit Zoological Society (DZS) is a member of a partnership that monitors and manages common terns and other colonial waterbirds in the Great Lakes. DZS is responsible for tracking common terns nest in the Detroit River and Lake St. Clair. Record high water levels have caused abandonment of some nesting colonies but efforts are ongoing to improve existing and create new nesting areas, while monitoring and managing existing colonies. The largest colony in this area is in Lake St. Clair at a decommissioned lighthouse where 170 nests produced over 300 chicks, the most productive colony in SE Michigan. The Detroit Zoological Society and Save Our South Channel Lights received USFWS Coastal funding to improve nesting habitat at the most frequently used lighthouse, which included removal of hazards, and improving the grade

and substrate after the 2019 season. Two new sites were created in the Detroit River and the Michigan DNR's Stony and Celeron Island, and while not occupied in 2019, we are optimistic that birds will be attracted to these sites in future years. Unfortunately, the other common tern nesting sites, with one exception, were not occupied because of water levels.

The Detroit Zoological Society continues to operate the Great Lakes Piping Plover captive rearing facility at the University of Michigan's Biological Station in Pellston, Michigan. This is one component of the USFWS recovery program for this species and the 2019 field season was the 18th year of operation for the DZS. DZS collaborates with AZA zoos and aquariums across the Great Lakes and country, who send staff to the facility to incubate eggs and rear chicks. Twenty-three staff from ten different zoos contributed 240 days to the program last year. Participating institutions pay the salaries and travel expenses for staff, and DZS has USFWS Great Lakes Restoration Initiative grant funding to cover the lodging and meals for participants as well as costs of incubation and rearing equipment and supplies.

Since the program began in 2001, we have reared and released 260 piping plover chicks, which has made a significant contribution to the wild population. In 2019, the captive rearing program had a busy year, raising and releasing 22 chicks. Seventy-one nesting pairs fledged 92 wild chicks, so the 22 captives represent almost 20% of the 2019 production. The GLPP nesting population has increased since 2000, from less than 20 pairs concentrated on Lake Michigan and Superior to over 70 nesting pairs on all five Great lakes. During the 2019 season, eggs came to the facility from Michigan, Wisconsin, Ontario, and Illinois.



Endangered Species Act Lawsuit Protects Piping Plovers from Feral Cats at Jones Beach State Park, NY

Grant Sizemore, Director of Invasive Species Programs, American Bird Conservancy

American Bird Conservancy (ABC) and the New York State Office of Parks, Recreation, and Historic Preservation (State Parks) finalized a court-ordered settlement in August 2018 to protect Piping Plovers at Jones Beach State Park on Long Island. This lawsuit is the first use of the Endangered Species Act (ESA) to protect birds from feral cat predation and a clear example of potential legal liabilities for sanctioned feral cat colonies.

In March 2016, following months of discussion with State Parks, ABC filed an ESA lawsuit to protect federally threatened Piping Plovers from feral cats. ABC alleged that State Parks had facilitated the ongoing presence of feral cats, a non-native predator, in close proximity to Piping Plover nest sites. Feral cats are a known predator of Piping Plovers and one of the world's most harmful invasive species. The cat colonies in question were approximately 0.65 and 0.25 miles from plover nest sites.

The settlement calls for the removal or containment of all feral cats at one site (Field 10) in the park by December 31, 2018. All other cats within the park will be removed by March 31, 2019. Ongoing management will further prevent the establishment of additional cat colonies and remove any other cats that might arrive in the park.

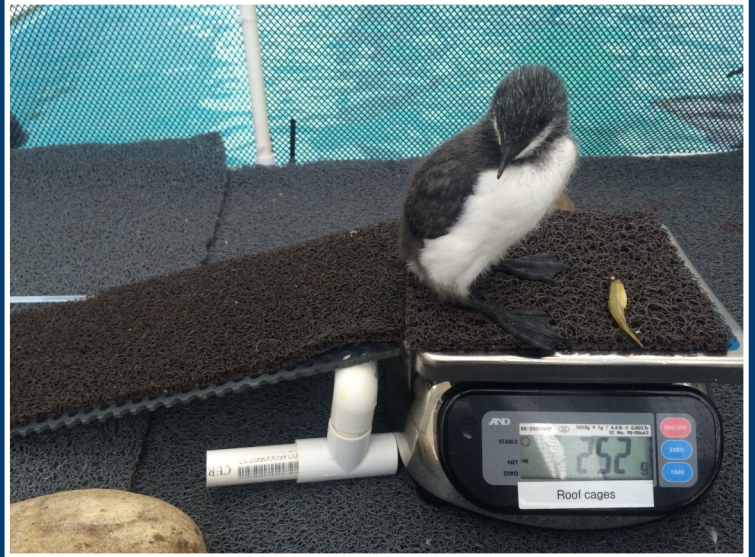
The settlement is a major victory for bird conservation and gives credibility to the numerous warnings by the U.S. Fish and Wildlife Service and others that feral cat colonies near federally threatened or endangered species is a violation of the ESA.

Roaming outdoor cats annually kill an estimated 2.4 billion birds in the United States and are the top source of direct, human-caused mortality to birds in the United States and Canada. Juveniles and ground-nesting birds, like Piping Plovers, are particularly vulnerable, but cats will also kill adults and a wide range of species. A study of cat-caught wildlife admissions at The Wildlife Center of Virginia identified 1,321 cat-caught birds, including such species as American Goldfinch, Barn Swallow, Carolina Chickadee, Eastern Bluebird, and Wood Thrush.



Photo courtesy of National Audubon Society

Enrichment and Training



Thank you to everyone who submitted enrichment and training photos!

Shorebird Personals

"There's nothing vanilla about *Vanellus miles*!"

Masked Lapwing

seeking holders...

Fun, active, visually appealing, does well in mixed-species exhibits.

If interested, contact Phil at phillip.horvey.scz.org.



Tufted Puffins,

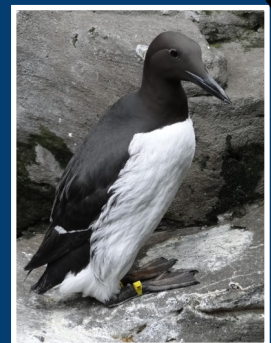
Horned Puffins,

Atlantic Puffins, &

Common Murres

seeking holders...

Diving, flying, charismatic seabirds to enhance your marine bird program.



STUD
PUFFIN



Interested in alcids? contact Stephanie at stephanieh@omahazoo.com or Sara at s.perry@seattleaquarium.org.

Personals, Cont.

Grey Gulls

*Gauging interest,
seeking holders..*

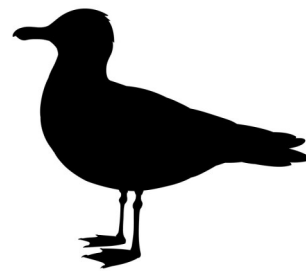
Fun, active, and easily recognizable. Does well in mixed-species exhibits with other shorebirds, waterfowl, small waders, and penguins. More timid than other gulls.



The species fact sheet was completed last year and will soon be available on the ASAG website (aviansag.org.) A huge thank you to Tim Snyder, Travis Koons, and Scott Newland for providing your collective knowledge and expertise in order to compile husbandry data on this charismatic species.

Currently a monitored species, sufficient interest and continued breeding success could lead to formal management within AZA.

If interested, contact Kirby at kpitchford@aqua.org.

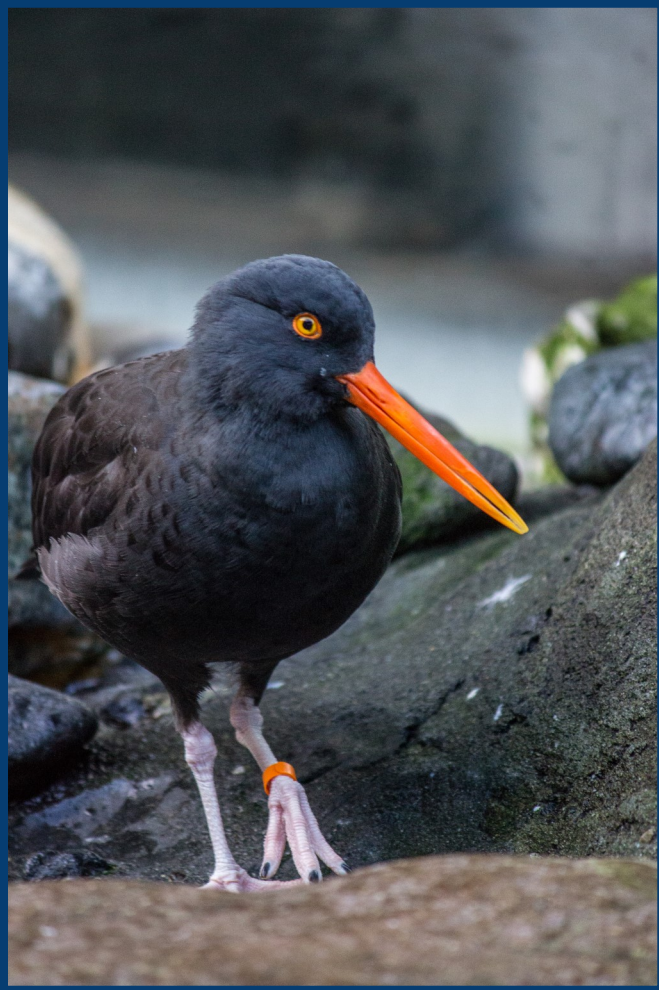


New Fundraising Partner

We are thrilled to announce our recent partnership with Wendy Barnes Design! Do you love shorebirds as much as we do? You can support their conservation by going to www.wendybarnesdesign.com and purchasing any piping plover, Inca tern, or black-necked stilt, or puffin product. 10% of these sales will go towards the Shorebird TAG.



Final Thoughts



Black Oystercatcher by Scott Kayser

**Want to support our supporters?
Please visit**

TheHappyWren.etsy.com

WendyBarnesDesign.com



www.facebook.com/ShorebirdTAG



Are you opening a **new exhibit**?

Do you want to show us your advancements in
husbandry or **training**?

Feature your contribution to **field conservation**?

Highlight your **successful hatches**?

It's never too early to submit your article for next
year's edition of *The Shorebird*!

Please email your article and pictures to
kpitchford@aqua.org and you could be featured in
next year's newsletter.

