

Conservation Note

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Flooding, Hurricane Season, and Extreme Weather Impacts on Wild Birds

Posted By **Nicole Becich, AAV Conservation Committee Co-chair**, Monday, September 27, 2021

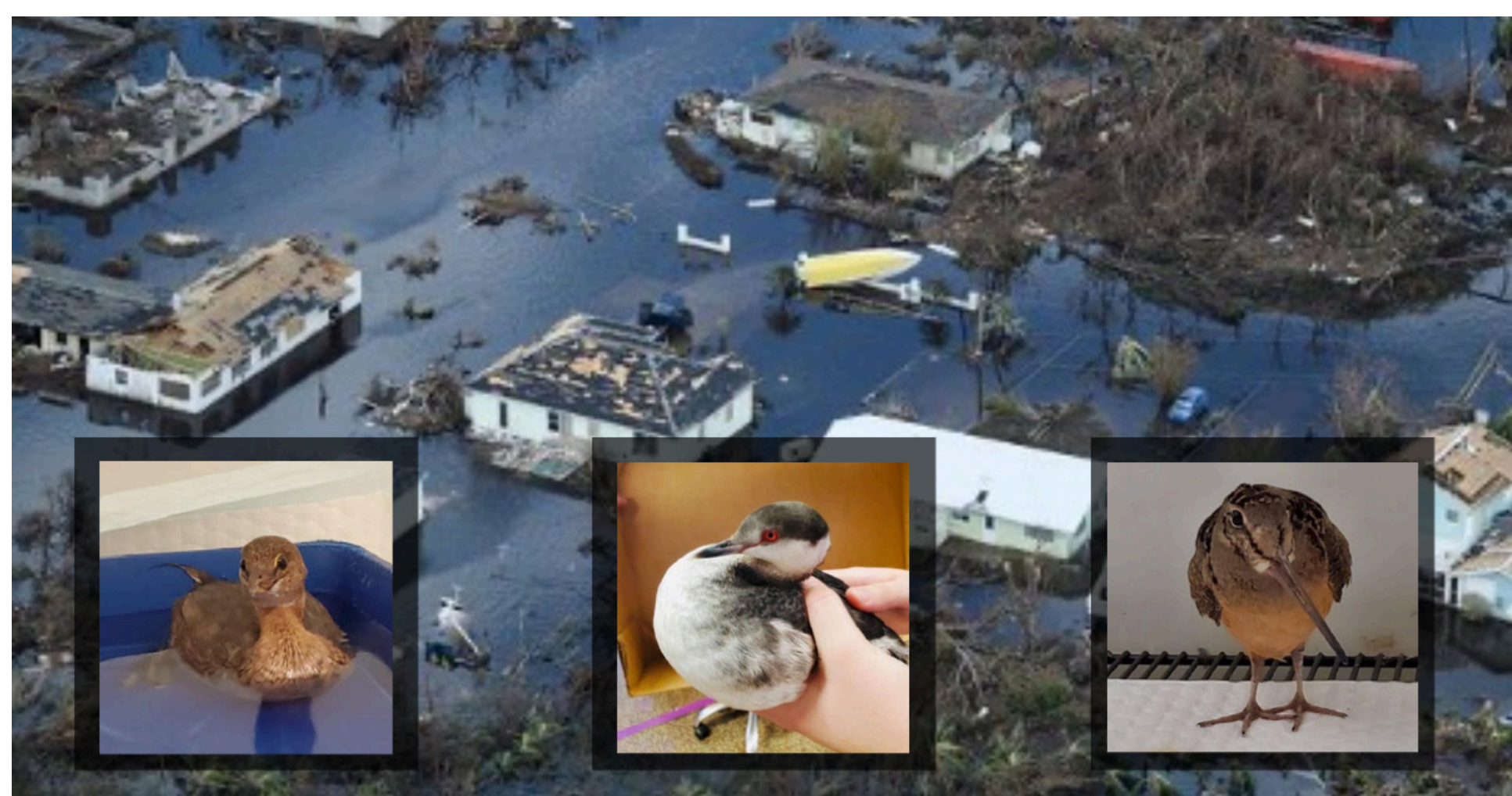


Photo credits: Flooding in Marsh Harbour following Hurricane Dorian, on Great Abaco Island in the Bahamas, on September 5, 2019 Photo from the Library of Congress, accessed 26 September 2021. Bird photos taken by Nikki Becich (left to right): Pied-billed grebe (*Podilymbus podiceps*) at the Avian Conservation Center of Appalachia in October 2020; Horned grebe (*Podiceps auritus*) at the Avian Conservation Center of Appalachia in February 2021; American woodcock (*Scolopax minor*) at the Avian Conservation Center of Appalachia in October 2020.

Some of you may have seen the videos of New York City's subway system flooding when Hurricane Ida hit the United States earlier this month. You may remember the images of devastation in the wake of Hurricane Maria across Puerto Rico in 2017, and the months of desperation as residents had no access to power or utilities following the storm. Just as humans are affected by these natural disasters, wildlife of all kinds, birds included, suffer from the destruction wrought by hurricanes, floods, and extreme wind patterns. Hurricane season in the United States overlaps fall migration, resulting in loss of viable foraging habitat, disruption of historical migratory routes, and displacement or death of individuals that have the misfortune of falling into the path of a storm. The impact from recent Hurricane Ida will be felt not only in the moment of the storm, but for months and years after: over 2,000 incidents of water pollution were reported in Louisiana alone immediately following Ida. Wildlife responders are still finding birds from the Alliance Refinery Spill in the wake of the hurricane in Louisiana. Over 100 birds have been recovered this month, including multiple egret species, black-bellied whistling ducks and blue-winged teals, among others. After Hurricane Maria in 2017, approximately 130 of the remaining endangered 600 Puerto Rican Amazon parrots had perished. Natural disasters have the potential to totally wipe out unique island-bound endemic species in a single event. The critically endangered Imperial Amazons of Dominica were fortunate to not have suffered that fate during Hurricane Maria, though their nesting habitat was severely reduced, potentially reducing population success in the long-term. During hurricane Dorian in 2019, the Bahama Nuthatch was not so lucky- and the unique island pine habitat it relied upon was similarly ill-fated. The bird has yet to be re-sighted and is feared to be extinct.

Individual migrating birds in the path of the storm have to battle wind, rain, and sometimes loss of their stopovers due to habitat destruction. If you are a bird watcher, you may have heard of the term "vagrant" species, which often refers to tropical, coastal, or unusual species of birds that have found themselves swept inland by extreme weather. Large numbers of migrant species dumped in unusual places, such as the decks of ships or in urban areas, has been termed a "fallout" phenomenon by birders that chase weather events to see what birds might turn up. The sad reality of these migratory disruptions are that they result in reduced fitness, illness, injury, and even death for the species affected. First-year migrants, the juveniles of 2021 that may have reduced flight skill and no prior experience, are often disproportionately affected. Exhausted migrants outside of their route are more likely to suffer building collisions. Though many birds have proven themselves remarkably resilient to the effects of hurricanes- such as Hope, a satellite-transmitter tagged Whimbrel that famously flew nearly 30 hours through a large tropical storm in 2011, reaching speeds of nearly 100 miles per hour for an hour and a half before reaching land- others lack the strength to return to their migratory route after displacements, especially if the foraging opportunities along their route are reduced by ongoing habitat destruction, both natural and man-made.

Unfortunately, NASA and NOAA indicate that there is increasing evidence for over-intensification of the water cycle, which will drive further changes in hurricanes, floods, and droughts. Large urban areas with high demands on natural watersheds result in more rapid evaporation of water, which results in changed weather patterns, and more intense patterns of rain when all that evaporated water does come down. World-wide weather patterns, such as the El Niño Southern Oscillation (ENSO), are also changing. These large climatic patterns affect agriculture, public health, freshwater and rain availability, hydraulic power generation, and economic activity. A description of these patterns directly from the National Oceanic and Atmospheric Administration (NOAA) is as follows: "During El Niño, chances for drought increase across India, Indonesia and Australia and a large part of the Amazon, while the southern U.S. tends to see more precipitation. During La Niña, the pattern is effectively reversed, with wetter conditions for Indonesia, Australia and parts of the Amazon, and dry conditions in the southern tier of the U.S.". For the 2021 and possibly 2022 winter months, NOAA scientists are predicting the La Niña paradigm, which is characterized by unusually low temperatures in the equatorial Pacific Ocean, potentially causing drought in the southern United States and heavy rains and flooding in the Pacific Northwest and Canada. Though this may seem welcome to some of those areas currently experiencing wildfires, the drastic swings in weather only weaken already heavily impacted ecosystems.

What can you do to help?

First and foremost, raise awareness among ecologically-minded friends and clients about when and where birds are migrating, and what to expect in your area if extreme weather may impact those flights. If you are located within the United States of America, you can follow the Cornell Lab of Ornithology's [BirdCast website](#), which tracks which nights in the fall are particularly heavy for migrants. They even have weather event centered blog postings and twitter updates, with predictions on which birds' migratory patterns are likely to be most affected, such as [this article](#) published during Hurricane Ida in early September 2021.

During fall migration, birds who are swept off their historical migratory course by extreme weather patterns often end up in your local wildlife rehabilitation circuit. As always, avian veterinarians who are able to volunteer their time and expertise to help these birds are in high demand. **Reach out to your local center and rehabilitators and see if there's a way you can help individuals locally.**

Volunteer for morning walks through cities to perform mortality counts and locate survivors of window strikes. Extreme storms and unpredictable weather generally result in more "fallout" for migrating birds. Join a BirdSafe chapter in the United States, the Fatal Light Awareness Program in Canada, or reach out to your local Audubon chapter to see if they are aware of any collision monitoring programs in your area. "Lights Out" initiatives become larger every year in major cities like Baltimore, Washington D.C., New York City, Atlanta and others. Chicago and other cities may have their own initiatives, like Chicago Bird Collision Monitors.

Emergency responders: Get on the front lines

If you are a citizen of the United States, you can also join a Community Emergency Response Team through the Federal Emergency Management Agency, or become certified as a Disaster Service Worker through your state and county. Many veterinary schools also have their own disaster response teams, which as a local veterinarian you may be able to join. The University of California, Davis (U.C. Davis) has a Veterinary Emergency Response Team (VERT) that responds to wildfires and oil spills- University of Louisiana Veterinary School partners with the Louisiana State Animal Response Team (LSART) to help respond to flooding and hurricanes. As hurricanes and flooding events have the potential to affect offshore oil drilling and oil carriers, relevant organizations to align with also include the Oiled Wildlife Care Network, also centered at U.C. Davis Veterinary School. Together with the veterinary program at Massey University in New Zealand and the Wildbase Oil Response team, veterinarians can participate in the Oiled Wildlife Response Training program and help wildlife in need.

Donate to Coastal Conservation Efforts for Birds

Finally, you can help support coastal cleanup crews and habitat restoration projects. The [Audubon Society](#), [American Bird Conservancy](#), [Nature Conservancy](#), and many local organizations work hard to protect coastal habitat. Protecting these habitats to protect the birds in them also gives back to humans and other wildlife in coastal areas- over 3 billion people live near the coasts worldwide. As flooding, hurricanes, and shore erosion worsen, humans and wildlife are all at risk, and healthy wetlands, dunes, marshes, and reefs help blunt the force of storm surges and winds, as well as absorb rising water levels.

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