

SEPTEMBER 2021

NOTES OF A NATURALIST

A monthly newsletter bringing you the species, landscape, history, and happenings of the Taft-Nicholson Center

Migrating Birds

This time of year, millions of birds may be taking flight across North America on any given day. A variety of factors can trigger bird migration, including hours of daylight, temperature, availability of food, and genetics. Birds seem to use a combination of tactics for navigation, including landscape markers and the earth's magnetic fields. Some use the sun and its angle in the sky as a cue to the direction they are heading, though the majority may look to the stars and use Polaris as a compass. Most migratory birds, especially songbirds, travel by night.

Migration is a very dangerous time. Birds often have to contend with unexpected extreme weather events and food shortages along their routes. While there are some benefits to traveling at night, such as more favorable weather conditions and a lower risk of predation, nocturnal travelers have unique challenges to deal with. Human-caused light pollution makes nighttime navigation more difficult. Birds can become confused by bright lights, which can draw them into cities where buildings pose threats. Up to a billion birds are killed annually in collisions with human-made structures.

The simple act of turning off unnecessary lights can help out migratory birds. Many cities have implemented Lights Out campaigns to encourage residents to reduce light use during peak migration. Historic and current radar data, which picks up mass bird movement as well as weather patterns, used in combination with information collected by citizen scientists have helped make bird migration predictions. You can check out [BirdCast](#) for updated nation-wide and area-specific forecasts throughout the migratory season.



Western Tanager
Photo Credit: Chris Montgomery

Where do they go?

The absence of Sandhill Cranes is noticeable in Centennial Valley early on in the fall. Their calls are no longer heard reverberating throughout the valley like they were a few weeks prior, when they began to flock in preparation for migration. They will ultimately end up in New Mexico. Cranes, along with most waterfowl, follow specific migration pathways each year, stopping along key sites throughout their journey.

Cliff Swallows embark on one of the longest journeys of migratory songbirds that breed in Centennial Valley. Their absence is also very noticeable early on, when they are no longer seen swarming in the sky above campus. Hundreds of swallows will travel together, slowly making their way towards South America.

Swainson's Hawks also take record-breaking journeys. They spend their non-breeding season in the grasslands of Argentina, traveling around 12,000 miles each year. Though generally solitary, they will migrate in large groups, or kettles, often with tens of thousands of individuals.



Meet the Artists-in-Residence: Kristen Mitchell



Kristen Mitchell is a Utah-based artist who documents naturally emergent compositions through reflective, diffractive, and collaborative practices. Committed to community-based art practice, she is founder and producer of Living Marks (an open source art project developed to facilitate creative inter-media collaboration), a member of the Revolution School art collective, and a participant in Virtual Care Lab. She served as chair of the Summit County Public Art Board, juror for the Utah Film Festival, and an active public art advocate. She has received multiple awards and grants, including Ogden City Arts and Nine Rails Creative District, and held residencies at Vermont Studio Center and the Utah Museum of Natural History.

Kristen’s work at the Taft Humanities Center will celebrate the spectacular celestial landscapes that can be seen clearly in the Centennial Valley’s well-preserved dark sky. Light pollution keeps distant light sources hidden in most areas of the world and the valley’s stunning views of the starscapes illuminate what we have lost or forgotten in just a few generations.

The Centennial Valley starscape “deep space plein air” drawings presents a unique point of view by including the night sky in our idea of what a wilderness landscape includes. Artwork of distant objects observed through the telescope follows a long tradition of recording the known world through drawing and creates an intimacy with distant light sources that enriches our sense of location in the cosmos.

2021 Season Project Updates

We’re wrapping up another great season at the Taft-Nicholson Center. While this summer still looked a little different than usual, we were grateful to have our Faculty Fellow and Artist-in-Residence programs running again. In case you missed it, here are just a few of the projects we’ve accomplished at the center this year:

- Installed greenhouses and raised bed
- Installed new AV system in Rosie’s and on our stage
- Installed air quality monitoring system
- Building maintenance and landscape upkeep

We’re already looking forward to the 2022 season! We hope to have more of our usual groups joining us.

The Science Behind Fall Colors

The spectacular color show put on by deciduous trees and shrubs is a direct response to the dwindling hours of daylight. With less daylight, photosynthesis becomes less efficient and leaf cells begin to break down chlorophyll, the pigment primarily responsible for photosynthesis. This gives other pigments a chance to shine.

Carotenoids are always present in leaves, but are hidden by chlorophyll in the spring and summer. There are two main types of carotenoids that are responsible for fall colors, giving us yellow (xanthophylls) and orange (carotenes). Anthocyanins, another class of pigments, turn leaves red. Unlike carotenoids, anthocyanins are only found in some plants. They are not present all the time, and are instead produced in response to a build up of sugars in leaf cells. But when the conditions are just right, such as sunny days followed by cool-but-not-yet-freezing nights, vivid reds can make an appearance in the autumn landscape.



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