SHARE:

Join Our Email List

National Park Service
U.S. Department of the Interior

Natural Resource Quarterly | Spring 2021

Newsletter of Natural Resources in the National Capital Area

In This Issue:

- Bear Rocks and Allegheny Front Preserve NNL
- Cultural Landscapes & Natural Resource Collaboration
- Monitoring Urban Animals
- 2020 Was Among Hottest Years on Record for DC: New Weather Resource Briefs
- Tracking Invasive Pests
- Bear at Prince William, Bobcat at C&O Canal
- Nature News Round-Up: ICYMI
- NRS Field Work in Your Park
- Calendar

Bear Rocks and Allegheny Front Preserve NNL

[Photo: The windswept, high elevation landscape at Bear Rocks and Allegheny Front Preserve NNL. Credit: Kent Mason]

Bear Rocks and Allegheny Front Preserve in West Virginia recently became the 600th National Natural Landmark (NNL)! The site was evaluated for NNL status by scientists working through an agreement with the Chesapeake Watershed Cooperative Ecosystem Studies Unit (CHWA CESU), and was signed into being by the Secretary of the Interior in January 2021.
But what exactly is a National Natural Landmark, and what is Bear Rocks? What NNLs are in the National Capital Area, and how do National Natural Landmarks differ from National Historic Landmarks?

NNLs Defined
A National Natural Landmark is a natural area recognized for containing outstanding biological or geological features. They are designated for their condition, illustrative character, rarity, diversity, and value to science and education.
NNL sites can be publicly or privately held and designation as an NNL does not make a site accessible to the public, nor does it restrict any types of land use. However, the program does offer assistance with conservation efforts, if landowners want it.

Bear Rocks
Bear Rocks and Allegheny Front Preserve is a 1,204-acre (487-hectare) site in West Virginia, just north of the Dolly Sods Wilderness. It's elevated, flat, sandstone-capped rocks along the Allegheny Front are a textbook example of how mountain landforms are transformed into plateau landscapes by millions of years of uplift and erosion following continental collision.
Cold temperatures and elevations over 4,000 feet above sea level have created a rich ecological community dominated by red spruce and heath shrubs at higher elevations and by bogs and other wetlands at lower elevations. Bear Rocks provides habitat to more than 190 species of plants and hosts three rare plant communities. [Read More]

Cultural Landscapes & Natural Resource Collaboration

Julie McGilvray, NCA Historical Landscape Architect

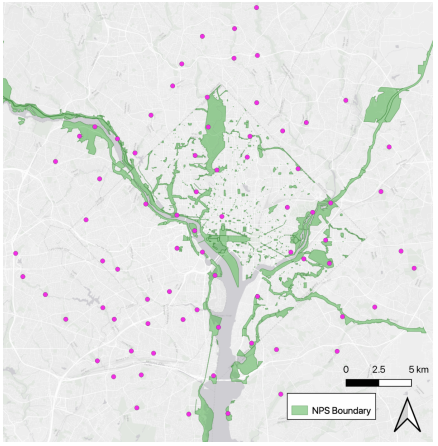
[Photo: A 12-pounder howitzer behind the now forest-covered earthworks of Fort Marcy in the George Washington Memorial Parkway. Credits: NPS/Phan]

It has long been a goal to bring natural and cultural resource disciplines more closely together within the National Park Service. NPS employees charged with managing diverse park resources, capably move across a wide array of disciplines to, *"preserve unimpaired the natural and cultural resources and values of the National Park System for the enjoyment, education, and inspiration of this and future generations"*. In the National Capital Area, efforts are currently underway to bring the two "sides of the house" closer together in support of more integrated park resource management through project opportunities. One of which is a phased study of earthworks in and around Washington DC. The study begins with a management plan for the Civil War Defenses of Washington and will continue with work at Harpers Ferry and battlefields in years out. Through this project and others, we are learning how to work together to better integrate data and disciplines.

The field of Cultural Landscape studies, while housed in cultural resources within the NPS, is interdisciplinary in theory and practice and offers a potential platform for more integrated resource work. The concept can be traced to the field of geography and was first articulated in the 1925 *Morphology of Landscape* by Carl Sauer. His groundbreaking definition stated, "Culture is the agent, the natural area is the medium. The cultural landscape the result'. Cultural Landscapes became part of the NPS body of practice throughout the 1980s with the development of the Cultural Landscape Report (CLR). Cultural Landscapes were adopted as a cultural resource "type" in the 1990s.

The Cultural Landscape concept, as applied by the NPS, offers a way to study the evolution of a landscape or rather how humans have shaped their environments over time and how that environment has shaped cultural responses. For the NPS, a landscape studied through this lens must have historical significance. Thus, cultural landscapes not only look at the land and how it has been shaped by people (roads, buildings, gardens, etc.), but it also incorporates data from archeology, soils, history, geology, cultural anthropology and ethnography (traditional land uses and cultural traditions), ecology (vegetation, natural systems, climate), and views and vistas through thirteen cultural landscape characteristics. These characteristics allow analysis to be as comprehensive as possible for a given place (See Figure 1 for a full list of Cultural Landscape characteristics). Further, they are used to create a statement of landscape character, which drives what should be preserved about an area. This kind of "kitchen sink" approach allows for collaboration that doesn't exist within other disciplines in cultural resources. [Read More]

Monitoring Urban Animals



[**Photo:** An eastern wild turkey (*Meleagris gallopavo*) at Shepherd Parkway in National Capital Parks - East. Credit: URBANxNATURE Lab. **Map:** Urban animal study sites in and

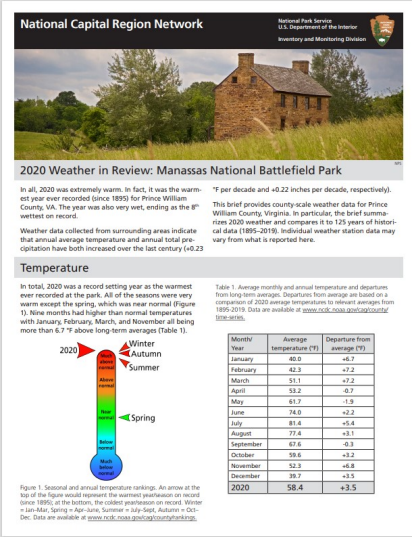
around Washington, D.C.]

Urban environments are the fastest growing ecosystem on the planet. And while cities are not typically built with wild plants and animals in mind, they do contain important wildlife habitats, such as parks, nature preserves, golf courses, cemeteries, and in some cases even yards. Some wildlife species have adapted to this new habitat, while others are now in the process of finding their urban niche.
That's why Dr. Travis Gallo, Assistant Professor of Urban Ecology and Conservation at George Mason University recently established what he hopes will be a long-term wildlife monitoring study in the DC area. He intends to look at the distribution, behavior, and habitat use of various urban wildlife species with an eye to helping resolve human-wildlife conflicts and preserve urban habitats.

Urban Biodiversity Study
Gallo's study uses remotely triggered wildlife cameras to detect medium-large sized animals. The study area includes greenspaces throughout all of D.C. plus a surrounding five kilometer buffer, covering a variety of urban to suburban sites. Several National Capital Area national parks are host to monitoring sites including George Washington Memorial Parkway, Rock Creek Park, National Capital Parks – East, and C&O Canal National Historical Park.

While many wildlife studies focus on a particular species of interest, or have a set time limit, this study stands out for both its scope and duration: looking at animals from deer and bears down to eastern chipmunks for as long as possible. This could help answer questions about whether an unusual animal sighting (like the bobcat seen in DC in 2020) is of an animal passing through, or one that's getting established in a new area. It could also help support other studies like DC's effort to track eastern cottontail rabbits and chipmunks. The monitoring is being done in partnership with the Urban Wildlife Information Network.
To learn more about Gallo's "Long-term urban biodiversity monitoring in the greater Washington, DC region" visit the URBANxNATURE Lab website or (for NPS staff with access) view research permits submitted to the NPS Research Permitting and Report System.

2020 Was Among Hottest Years on Record for DC: New Weather Resource Briefs


National Capital Region Network

National Park Service
U.S. Department of the Interior
Inventory and Monitoring Division

2020 Weather in Review: Manassas National Battlefield Park

In all, 2020 was extremely warm. In fact, it was the warmest year ever recorded (since 1895) for Prince William County, VA. The year was also very wet, ending as the 8th wettest on record.

Weather data collected from surrounding areas indicate that annual average temperature and annual total precipitation have both increased over the last century (+0.23 °F per decade and +0.22 inches per decade, respectively).

This brief provides county-scale weather data for Prince William County, Virginia. In particular, the brief summarizes 2020 weather and compares it to 125 years of historical data (1895–2019). Individual weather station data may vary from what is reported here.

Temperature

In total, 2020 was a record setting year as the warmest ever recorded at the park. All of the seasons were very warm except the spring, which was near normal (Figure 1). Nine months had higher than normal temperatures with January, February, March, and November all being more than 6.7 °F above long-term averages (Table 1).

Table 1. Average monthly and annual temperature and departures from long-term averages. Departures from average are based on a comparison of 2020 average temperatures to relevant averages from 1895-2019. Data are available at www.ncdc.noaa.gov/cag/county/time-series.

Month/ Year	Average temperature (°F)	Departure from average (°F)
January	40.0	+6.7
February	42.3	+7.2
March	51.1	+7.2
April	53.2	-0.7
May	61.7	-1.9
June	74.0	+2.2
July	81.4	+5.4
August	77.4	+3.1
September	67.6	-0.3
October	59.6	+3.2
November	52.3	+6.8
December	39.7	+3.5
2020	58.4	+3.5

Figure 1. Seasonal and annual temperature rankings. An arrow at the top of the figure would represent the warmest year/season on record (since 1895); at the bottom, the coldest year/season on record. Winter = Jan-Mar, Spring = Apr-June, Summer = July-Sept, Autumn = Oct-Dec. Data are available at www.ncdc.noaa.gov/cag/countyrankings.

The year 2020 was among the warmest years recorded since 1895 for all DC and many Maryland national parks. It was the second warmest for Wolf Trap National Park for the Performing Arts and George Washington Memorial Parkway, and warmest year on record for Manassas National Battlefield Park and Prince William Forest Park.
These are some of the statistics presented in a new set of 12 park-specific resource briefs for National Capital Area (NCA) parks. The briefs compare 2020 temperatures and precipitation to long-term averages (1895-2019) and summarize monthly, seasonal, and annual weather for 2020, as tracked by the National Oceanic and Atmospheric Administration's National Centers for Environmental Information (formerly the National Climatic Data Center).
NCA parks are experiencing climate change and in recent years, the weather experienced in our parks is often quite different from the long-term average. Read the briefs and learn how 2020 compared to historic averages in your park.

[Image: The 2020 Weather brief for Manassas National Battlefield Park]

Tracking Invasive Pests

A new map of **Beech Leaf Disease** for 2020 is out. The disease has spread to Connecticut, Rhode Island, New Jersey and West Virginia, plus many more counties in New York, Ohio, Pennsylvania and Ontario. Closest to home, it has now been detected in Pennsylvania, just across the border from Garrett and Allegany counties in western Maryland. Learn more about Beech Leaf Disease.

The **Spotted Lanternfly** infestation map from NY state has been updated to include two new Virginia counties, and several new infestations in northern New Jersey. Learn more about Spotted Lanterfly in the NCA: Spotted Lanternfly 101 and Spotted Lanternfly in Perspective

According to a February 2021 EDRR (early detection rapid response) alert from the National Capital PRISM (Partnership for Regional Invasive Species Management), there are 4 confirmed observations of **Cuban tree frogs** (*Osteopilus septentrionalis*) in Virginia. This species of frog is invasive in southern states. At up to 5.5 inches long, they are much larger than native frog species and they harm native frogs by eating them or by spreading diseases or parasites. Please check all plants you purchase at your local stores and nurseries for these unwanted hitchhikers.

Bear at Prince William, Bobcat at C&O Canal

Above: Warm temperatures around 50 F are probably the reason this black bear (*Ursus americanus*) was up and about on January 13 at Prince William Forest Park. Black bears are not true hibernators, but they do slow down their heart rate and breathing while denning in the winter months. Bears may make their dens in hollow trees or logs, under the root mass of a tree, or in rock crevices. They are easily aroused and may be active during warm winter days. [Credit: NPS/Shelton]

Below: A bobcat (*Lynx rufus*) sniffs at a tree-mounted lure along the western end of C&O Canal National Historical Park in Allegany County, Maryland on December 29. Primarily nocturnal, these small (15 to 25 pound) short-tailed predators mainly consume small mammals, birds, and fish. This image was captured as part of a project to better understand the occupancy and distribution of rare and cryptic mammals in western Maryland. [Credit: NPS]

Nature News Round Up: ICYMI

In Case You Missed It (ICYMI), here's a round-up of nature news and resources from the last quarter that may be of interest to those working with natural resources in the National Capital Area. This includes articles from InsideNPS and the NCA Informer (NPS-only access), NPS press releases, and new NPS web and social media content.

Catoctin Mountain Park FB Post on Fish in Winter (Green & Gray Report: 1/31/2021)

Tanya Gossett named Associate Area Director for Resource Stewardship and Science for National Capital Area | Inside NPS (Inside NPS: 1/29/2021)

3 New National Natural Landmarks Designated | Inside NPS (Inside NPS: 1/22/2021)

New Decision Framework for Responding to Ecological Transformation Published | Inside NPS (Inside NPS: 1/19/2021)

Approval of Director's Order #2: Park Planning | Inside NPS (Inside NPS: 1/13/2021)

Citizen Science in the Digital Age (U.S. National Park Service) (nps.gov) (Green & Gray Report: 1/4/2021)

Geospatial Newsletter September/December 2020 | Inside NPS (Inside NPS: 12/11/2020)

Department of the Interior (DOI) Natural Resource Conservation Achievement Awards (NRCAA) are now open | Inside NPS (12/8/2020)

NRS Field Work in Your Park

During spring (March-May), programs from the office of Natural Resources and Science (NRS) begin field work and monitoring in parks:

Invasive Plant Management Team (IPMT) resumed field operations on February 22 with treatment of lesser celandine in Rock Creek Park. IPMT will host two Weed Warrior Trainings at GWMP in March and April. If you are interested in a Weed Warrior Training for volunteers in your park, please contact Aleksandra Voznitza by NPS email.

I&M Amphibian Monitoring by USGS collaborators will begin at wetland and stream sites in March. Field operations continue into June, conditional on availability of habitat at Catoctin, C&O Canal, GW Parkway, Manassas, Monocacy, National Capital Parks - East, Prince William, and Rock Creek.

I&M Bird Monitoring by the University of Delaware field team will begin at forest and grassland sites in April.

I&M Forest Vegetation Monitoring begins in mid-April. Prior to that, I&M staff will prep monitoring plots for the upcoming field season (e.g., painting trees, fixing broken tags, etc.).

I&M Macroinvertebrate Monitoring by collaborators at University of Maryland – Center for Environmental Studies starts in March-April at stream sites in Prince William Forest Park.

I&M Water Monitoring continues on a bi-monthly basis at all NCRN I&M parks except C&O Canal.

[Photo: Water monitoring at Henson Creek. Credit: NPS]

Calendar

2021

MARCH

20. Weed Warrior Training from the Invasive Plant Management Team (IPMT) at George Washington Memorial Parkway. Contact Aleksandra Voznitza by NPS email.

APRIL
5 and 9. Weed Warrior Training from the Invasive Plant Management Team (IPMT) at George Washington Memorial Parkway. Contact Mireya Stirzaker or Aleksandra Voznitza by NPS email.

JULY
TBD. Natural Resource Advisory Team (NAT) Meeting. Microsoft Teams. Contact Joe Calzarette by NPS email.

Submit your ideas for the next Natural Resource Quarterly newsletter.

The Natural Resource Quarterly provides updates on the status of natural resources and science in the parks of Region 1 - National Capital Area.

NCA Natural Resources | Previous Issues | NCR Inventory & Monitoring