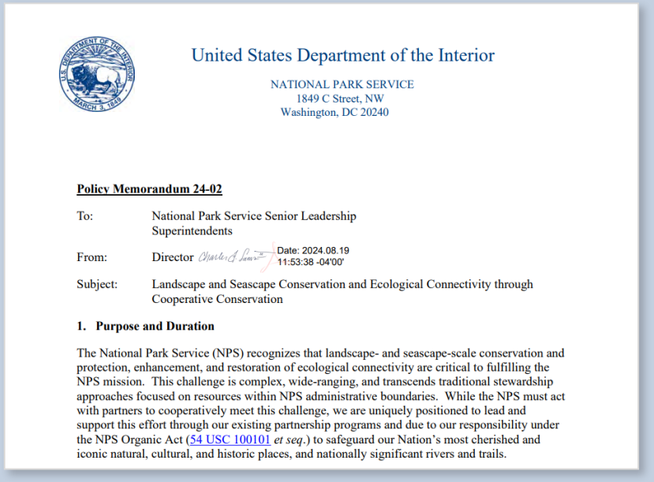


United States Department of the Interior

NATIONAL PARK SERVICE
1849 C Street, NW
Washington, DC 20240

Policy Memorandum 24-02

To: National Park Service Senior Leadership
Superintendents

From: Director Date: 2024.08.19 11:53:38 -04'00'

Subject: Landscape and Seascape Conservation and Ecological Connectivity through Cooperative Conservation

1. Purpose and Duration

The National Park Service (NPS) recognizes that landscape- and seascape-scale conservation and protection, enhancement, and restoration of ecological connectivity are critical to fulfilling the NPS mission. This challenge is complex, wide-ranging, and transcends traditional stewardship approaches focused on resources within NPS administrative boundaries. While the NPS must act with partners to cooperatively meet this challenge, we are uniquely positioned to lead and support this effort through our existing partnership programs and due to our responsibility under the NPS Organic Act (54 USC 100101 *et seq.*) to safeguard our Nation's most cherished and iconic natural, cultural, and historic places, and nationally significant rivers and trails.

National Park Service Engaging in Landscape and Seascape Conservation

"The Park Service recognizes that landscape and seascape scale conservation and protection, enhancement, and restoration of ecological connectivity are critical to fulfilling the NPS mission."

Read the Memoradum here >

TYLER SAMMIS
Director, Park Institute of America

Park Institute of America

NATIONAL PARKS CONSERVATION ASSOCIATION

NPCA and Park Institute of America Forge Partnerships

LAND AND SEASCAPE CONSERVATION FELLOWSHIP

This summer, Nik Moy, Sr. Program Manager of Conservation Science, with Tyler Sammis of the Park Institute of America (PIA) designed a new fellowship program which engaged two Duke University graduate students in land and seascape conservation work supporting NPCA's Southeast and Sun Coast Regional Offices. Read about the fellows' work on the following pages.

According to Tyler, "The fellowship is unlike any program I have seen offered and provides a truly meaningful opportunity for Nicholas School students to build their science communication skills while supporting parks and protected areas.

Fellows were guided through a well-balanced practicum of needs assessment, data curation and analysis, guest lectures, and cartographic design. Both in its design and implementation, this program serves as a model for conservation data storytelling fellowships. PIA looks forward to growing this program with NPCA and leveraging to show why parks matter."

COASTAL RESILIENCE SYMPOSIUM

Several regional teams converged on Beaufort, NC this September to attend the 2024 Coastal Resiliency Research Symposium organized by NPCA's partner, the Park Institute of America.

Members of NPCA's Sun Coast Region and Conservation Programs team joined Southeast Region staff, as well as members of the Southeast Regional Council and Young Leaders Council, at the Duke University Marine Lab to meet faculty and research teams from six universities, superintendents and resource management leads from both of North Carolina's national seashores, US congressional staff, state coastal protected area managers, and coastal nonprofit leaders.

Participants discussed new research, policy, and outreach approaches to coastal resiliency being implemented locally that the state's protected area managers should know more about, as well as those approaches already working for the state's national seashores that could transfer to other coastal parks.

Students, faculty, and conservation practitioners including NPCA staff gathered for the Coastal Resilience Symposium. PHOTO: Lily Zhang.

Appalachian elktoe
Alasmidonta raveneliana

Eastern hellbender
Cryptobranchus alleganiensis

Southern Appalachia is a hotspot for aquatic species, but many face threats due to barriers which many partners are interested in removing. Ellie examined physical barriers to aquatic connectivity for several freshwater species of interest to the Southern Appalachian Coalition.

Four toed salamander
Hemidactylium scutatumonoff

PHOTO: Clockwise from top left, Dick Biggins (US Fish and Wildlife Service), Smithsonian Institute, Hazel Calloway (University of Virginia).

SOUTHERN APPALACHIAN LANDSCAPE

Aquatic Connectivity in Southern Appalachia

ELLIE HARRIGAN
Land and Seascape Conservation Fellow,
NPCA Southeast Office

During my fellowship, I focused on supporting large landscape conservation within the Southern Appalachian Landscape. This region is not only a biodiversity hotspot for terrestial species but also a critical refuge for imperiled freshwater species.

My work centered on high-priority aquatic species in the area, evaluating how their habitats are threatened by barriers such as dams and roads. I used geospatial data to assess the proportion of protected lands in the study area, and which agencies are responsible for managing these lands. Further analyses highlighted what proportion of these barriers intersect with the species' habitats, emphasizing habitats of highest vulnerability.

The goal of this project was to support NPCA and its partners with tools to guide conservation efforts, particularly as part of the broader global initiative to protect thirty percent of land by 2030. By using these data-driven tools, organizations can take proactive steps to protect the unique ecosystems of the Southern Appalachians, ensuring healthier and more resilient freshwater environments.

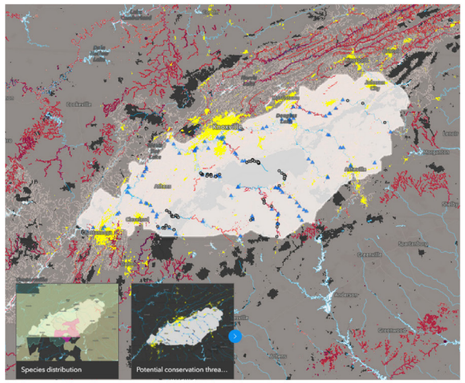
THIS EXPERIENCE HAS BEEN SO ENRICHING, HELPING ME GET HANDS-ON EXPERIENCE WITH CONSERVATION WORK USING DATA SCIENCE AND CREATING IMPACTFUL VISUAL REPRESENTATIONS OF THAT DATA TO TELL A STORY.

ELLIE'S SUMMER WORK

The following are tools provided to support the work of the Southern Appalachian Landscape Coalition. These data are facilitating early conversations around collective story-telling, accounting for progress, and data-driven decision making.

RESOURCES

Geospatial Toolkit for the Coalition



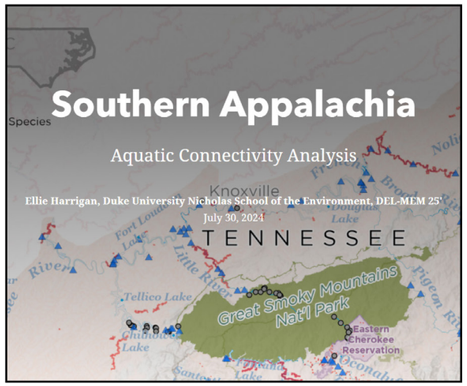
Where can the coalition collect valuable data, visualize conservation values and threats on the landscape, and share new science?

The coalition has been developing a collaborative mapping platform. This sample web application shows aquatic conservation values and threats in the Southern Appalachian landscape.

This app is one example of the geospatial tools the coalition can use to support data-driven decision-making and collaborative efforts to protect the rich biodiversity of this landscape.

https://parkb.it/sa30x30

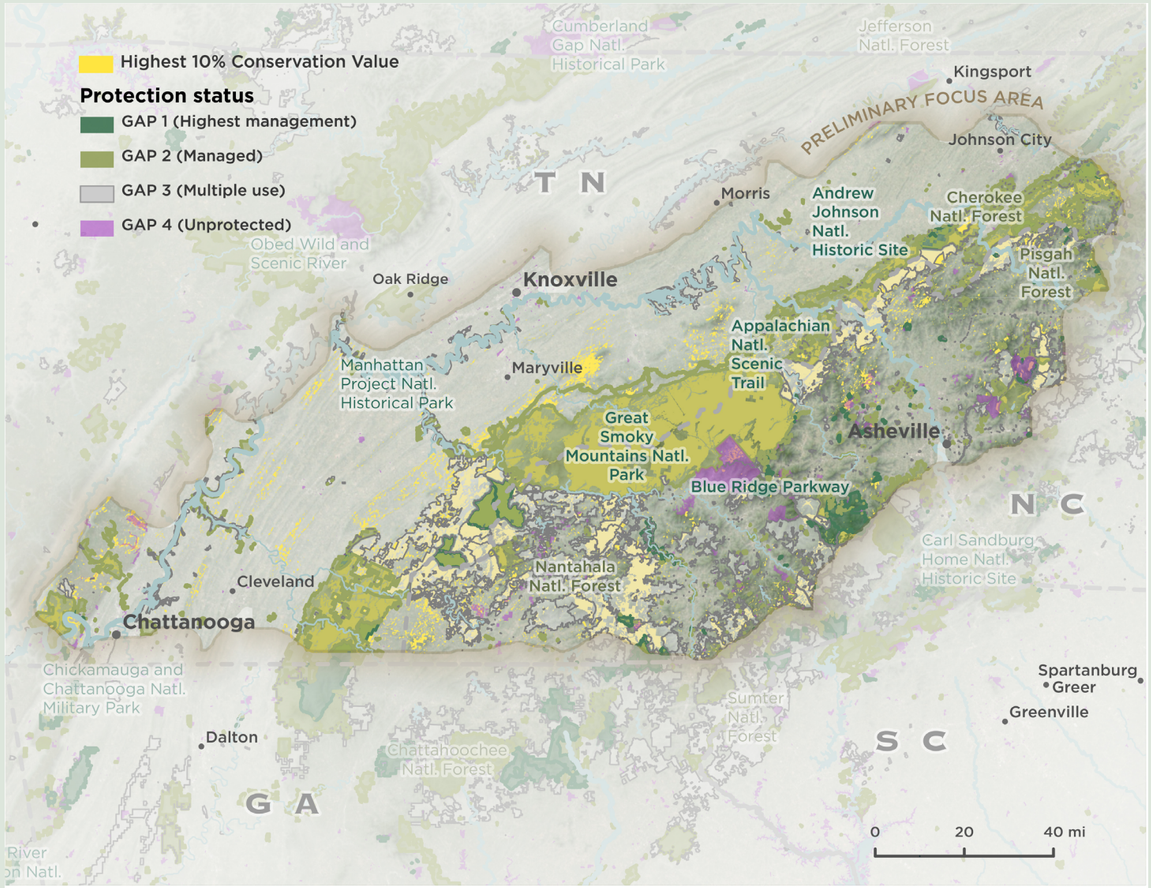
Aquatic Values Mapping



This analysis focuses on high-priority aquatic species and assesses threats to their habitats from barriers such as dams and roads. Summary statistics highlight the proportion of protected habitat within the study area and key land managers. Further analyses illustrate what proportion of barriers intersect these species habitats.

All of this powerful mapping and analysis was performed by Ellie Harrigan who is a Park Institute of America fellow at Duke University's Nicholas School of the Environment.

https://parkb.it/saaca



Climate and Biodiversity Science

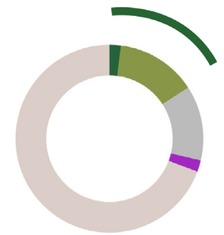
A Data-driven Landscape Strategy

A preliminary study by NPCA with biodiversity experts, NatureServe, used science as a starting point to understand the Southern Appalachian Landscape.

The study overlapped areas of high climate resilience (TNC), climate flow (TNC), and biodiversity (NatureServe) to map hotspots in the region, shown in yellow above.

Using a preliminary study area, shown with a dotted line above, we can see that of these "Highest Conservation Value" lands, 28% are open to mixed or extractive uses, and 21% have no meaningful protections.

With the support of the coalition, we hope to continue to use additional up-to-date, relevant and authoritative data to tell the landscape's story, empower our campaigns with science, and create data-driven coalition strategies.



The preliminary study area is **6,889,487 acres**

16% is protected and managed for biodiversity
USGS GAP 1 or GAP 2

13% is protected with multiple use
GAP 3

71% has no known mandate for biodiversity protection
GAP 4 or Unprotected

In the study area, "Highest conservation value" lands are **1,254,214 acres**

51% is protected and managed for biodiversity
USGS GAP 1 or GAP 2

28% is protected with multiple use
GAP 3

21% has no known mandate for biodiversity protection
GAP 4 or Unprotected

GREATER EVERGLADES LANDSCAPE

Endangered Everglades Forests

HOPE LIU

Land and Seascape Conservation Fellow, NPCA Sun Coast Office

I LOVE THE CRUCIAL RELATIONSHIPS THIS EXPERIENCE HELPED VALIDATE, BETWEEN DATA SCIENCE AND STORYTELLING, BIODIVERSITY AND ANTHROPOLOGY, LARGE LANDSCAPES AND INDIVIDUAL STORIES, ALL OF WHICH MADE THIS SUMMER INVALUABLE.

This summer I had a wonderful time supporting the conservation of the Greater Everglades Landscape. Working alongside the Conservation Science team, the Sun Coast Regional Team, and many NPCA partners, I focused on the highly imperiled natural forest communities within this landscape.

My work involved processing various geospatial datasets to construct a database that explores conservation values and threats associated with forests in the Greater Everglades, while refining natural forest boundaries to help users identify the specific type and locations of these highly fragmented forest patches.

I also contributed to a science communication piece supporting advocacy for Greater Everglades wetland protection, particularly in response to last year's Supreme Court decision on the Clean Water Act, Sackett vs. EPA. Wetlands have always been my favorite ecosystem, and it was deeply meaningful to contribute to their protection this summer. I hope my work helps regional conservation actions through science-driven toolkits that are communicated in an engaging way!

I love how this fellowship exposed me to so many diverse perspectives and stories that emerge from park narratives, and even taught me how to capture and write these stories.

Pine Rocklands are considered a globally critically imperiled habitat unique to South Florida and the Bahamas. Today, less than 2 percent of the habitat exists outside of Everglades National Park due to rapid urbanization and fragmentation in Miami-Dade county. Hope examined patches where these precious habitats still exist in Miami-Dade. PHOTO: Stephen Wood, iStock.

EVERGLADES AT RISK:
Clean Water Act protections severely reduced

Drinking water for one in three Floridians depends on the Everglades. But **in August 2023, a Supreme Court decision drastically weakened the Clean Water Act, stripping protections from vital watersheds and wetlands across the country.** Florida, already facing significant loss of wetlands and coastal watersheds due to sprawl development, sea level rise, and increasingly intense hurricanes, is now more vulnerable than ever. With vast areas of the Everglades — and other treasured areas across the state — no longer shielded by the Clean Water Act, it's critical for communities to understand the potential threats to their watersheds and how water quality could be impacted.

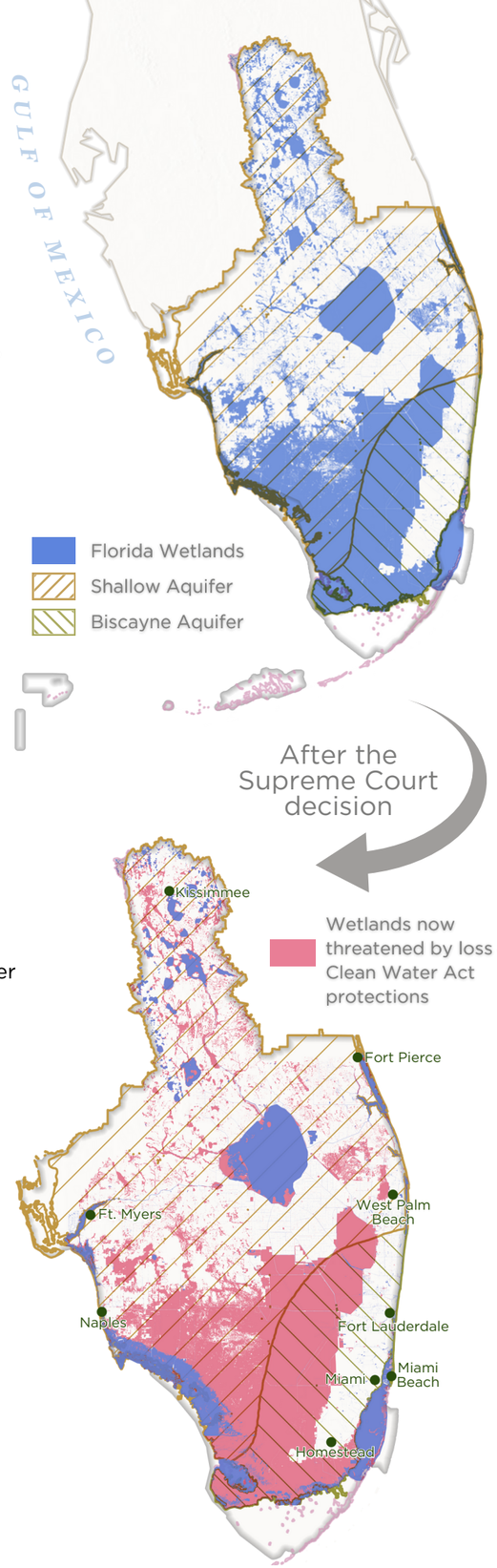
In 2023, the Supreme Court ruled that only waters with a "continuous surface connection" to "waters of the United States" are protected under the Clean Water Act. The Court further clarified that the term "**waters**" refers to "navigable water like rivers, lakes, and oceans"

— not **wetlands**.

DRINKING WATER WAS ALREADY THREATENED

South Florida's drinking water relies on shallow underground aquifers, which are replenished by the Everglades. Wetlands play a vital role by allowing rainwater to filter into these aquifers and naturally purifying the water. The Clean Water Act regulates pollution and discharges that threaten water quality. **Without these protections in place, wetlands and watersheds are at greater risk of increased pollution** and degradation. Florida's aquifers are already under pressure from urbanization, runoff, and rising sea levels that drive saltwater intrusion. **If more wetlands are lost or paved over, less rainwater will recharge our aquifers**, instead being diverted into runoff or drainage systems.

Alarmingly, nearly 100% of the waters within Everglades National Park and Big Cypress National Preserve are already impaired by pollutants. The loss of Clean Water Act protections in vast areas beyond park boundaries will further threaten water quality.



Data Sources and Information: Wetland coverage scenario maps analyzed by Evans J. M., Adetoro, O. & Hill, K., Stetson University, Institute for Water and Environmental Resilience; Aquifers data from U.S. Geological Survey.

HOPE'S SUMMER WORK

National parks aren't isolated spaces — they are part of broader landscapes.

In the wake of the 2023 Sackett vs EPA Supreme Court decision that significantly reduced federal protections for wetlands, it became crucial to understand the potential impacts and inform communities.

To address this, NPCA teamed up with Stetson University's Institute for Biodiversity Law and Policy, Institute for Water and Environmental Resilience, and Jacobs Law Clinic to study the Greater Everglades ecosystem under the new Clean Water Act ruling.

Thanks to the university's experts and students, we now have a deeper understanding of the far-reaching consequences. Hope Liu, NPCA's Land and Seascape Conservation Fellow, and NPCA's Sun Coast Regional Office then communicated the results by producing this visually engaging fact sheet using the wealth of data produced by Stetson University to communicate the impacts to a wider audience.

This project brought together a diverse group of conservation practitioners, researchers, and students, highlighting the strength of collaboration from science to communication. This partnership supports NPCA's ongoing advocacy for clean water protections in the Greater Everglades.