NOTICE OF PETITION AND PETITION FOR RULEMAKING PURSUANT TO THE ADMINISTRATIVE PROCEDURE ACT, 5 U.S.C. § 553(e)

TO THE U.S. FOREST SERVICE

PETITION REQUESTING THAT THE U.S. FOREST SERVICE DEFINE, AND PROHIBIT DESTRUCTION OF, FENS ON NATIONAL FOREST SYSTEM LANDS.

Authored by: WildEarth Guardians and Wilderness Workshop

October 19, 2023

Submitted via email

Chief Randy Moore
U.S. Forest Service
1400 Independence Ave. SW
Washington D.C. 20250
randy.moore@usda.gov

Re: Petition for rulemaking to define, and prohibit destruction of, fens on National Forest System lands

Dear Chief Moore:

The right of an interested party to petition a federal agency is one of the fundamental freedoms guaranteed by the U.S. Constitution. The First Amendment states that "Congress shall make no law…abridging…the right of the people…to petition the Government for a redress of grievances."[1] Meanwhile, under the APA, interested parties may petition an agency for rulemakings[2] or for declaratory orders.[3]

Pursuant to the Administrative Procedure Act, 5 U.S.C. § 553(e), 7 C.F.R. § 1.28, and the petition clause of the First Amendment of the Constitution, WildEarth Guardians; Wilderness Workshop; Atchafalaya Basinkeeper; Bayou City Waterkeeper; Cahaba Riverkeeper; Center for Biological Diversity; Colorado Native Plant Society; ColoradoWild; Evergreen Audubon; Gila Native Plant Society; Grand Canyon Trust; Michigan Wetlands Association; Native Plant Society of New Mexico, Albuquerque Chapter; Native Plant Society of New Mexico, Las Cruces Chapter; Native Plant Society of New Mexico, Santa Fe Chapter; Quiet Use Coalition; Roaring Fork Audubon; Rocky Mountain Wild; San Juan Citizens Alliance; Save The Bay; Save The

[1] U.S. Const., Amend. I; *see United Mine Workers v. Ill. State Bar Assn.*, 389 U.S. 217, 222 (1967) (noting that "the right[ ]...to petition for a redress or grievances [is] among the most precious of the liberties safeguarded by the Bill of Rights").

[2] In accordance with 5 U.S.C. § 551(4), "Rule" is defined as "the whole or part of an agency statement of general or particular applicability and future effect designed to implement, interpret, or prescribe law or policy."

[3] The APA differentiates between rulemakings and adjudications. *See* 5 U.S.C. §§ 551, 553, 554.

Colorado; The Wetlands Initiative; Three Rivers Waterkeeper; Twin Harbors Waterkeeper; Waterkeeper Alliance; Waterkeepers Chesapeake; and Western Watersheds Project ("Petitioners") hereby respectfully petition[4] the U.S. Forest Service ("FS"), for the issuance of a rule to strengthen legal protections for fens, important wetland ecosystems that support unique plant and wildlife communities and provide significant climate resilience benefits.

PETITIONERS

WildEarth Guardians (Guardians) is a 501(c)(3) non-profit organization, working to protect and restore the wildlife, wild places, wild rivers, and health of the American West. WildEarth Guardians works to help advance a transition from fossil fuels and to protect natural values and important resources from the impacts of fossil fuel development in the American West, and endeavors to reform the policies and practices of federal land management agencies, including the Forest Service, to ensure the agencies have the tools needed to respond to the climate crisis. For more than two decades, Guardians has also worked to safeguard clean water and flows in western rivers and to restore the health of riparian ecosystems throughout the West. Guardians seeks to protect flows and clean water in the Colorado River, the Rio Grande, the Willamette River and many more locations throughout the West.

Wilderness Workshop (WW) is a 501(c)(3) non-profit organization, working to protect the wilderness, water, and wildlife of Western Colorado's public lands. WW is based in Carbondale, Colorado, and engages in research, education, legal advocacy and grassroots organizing to protect the ecological integrity of public lands. WW was founded in 1967 and has over 700 members, many of whom use and enjoy National Forest lands and the fen wetlands those lands support.

Atchafalaya Basinkeeper, a member organization of Waterkeeper Alliance, was founded by Dean Wilson in 2004 with a mission to protect and restore the swamps, lakes, rivers, streams and bayous of the Atchafalaya Basin for future generations.

Bayou City Waterkeeper (BCWK) is a Houston-based organization focused on water quality, wetlands protection, and flood mitigation across our region with an emphasis on climate resilience and environmental justice. BCWK protects the waters and people of the Houston region through bold legal action, community science, and creative, grassroots policy to further justice, health, and safety for our region. Our programs and campaigns fall into the categories of Clean Water, Wetland Protection, and Just Climate Transitions.

Cahaba Riverkeeper is a community-led, nonprofit based in Birmingham, Alabama.

The Center for Biological Diversity ("Center") is a non-profit environmental organization with more than 1.7 million members and online activists dedicated to the protection of endangered species and wild places. The Center is headquartered in Tucson, Arizona and has offices across the country and in Mexico. The Center uses science, policy, and law to advocate for the conservation and recovery of species on the brink of extinction and the habitats and

[4] In accordance with 5 U.S.C. § 553(e), "[e]ach agency shall give an interested person the right to petition for the issuance, amendment, or repeal of a rule."

climate they need to survive. The Center has and continues to actively advocate for increased protections of air quality, water quality, species, habitats, and climate stability on lands managed by the Forest Service.

Founded in 1976, the Colorado Native Plant Society (CoNPS) is a 501(c)(3) non-profit organization dedicated to furthering the knowledge, appreciation and conservation of native plants and habitats of Colorado through education, stewardship and advocacy. We have more than 1,700 members in seven geographical chapters located throughout the state and publish our journal, Aquilegia, four times a year.

ColoradoWild is a 501(c)(3) organization that is a passionate group of Coloradans who are insistent that all life deserves and must be protected. ColoradoWild connects advocacy with science to achieve the restoration and conservation of Colorado's Wild Life, Wild Lands and Wilderness.

Evergreen Audubon is a 501(c)(3) nonprofit organization, focused on bringing natural world awareness to the Evergreen Colorado community and providing opportunities for children to grow in their understanding of the wild world.

The Gila Native Plant Society is a chapter of the Native Plant Society of New Mexico (a 501(c)(3) non-profit organization), based in Silver City. The Gila Native Plant Society is committed to promoting the education, research, and appreciation of the native flora of the Southwest; encouraging the preservation of rare and endangered plant species; and supporting the use of suitable native plants in landscaping. The Gila Native Plant Society's more than 200 members, and the 1,000 members of the Native Plant Society of New Mexico statewide, use and enjoy the public lands in the Gila National Forest, including the fens, seeps, springs, and wetlands that are essential habitat for native plants and crucial to the healthy functioning of the Forest ecosystem.

Grand Canyon Trust (the Trust) is a 501(c)(3) non-profit organization based in Flagstaff, Arizona, working to safeguard the wonders of the Grand Canyon and the Colorado Plateau, while supporting the rights of its Native peoples. The Trust was founded in 1985 and has over 3200 members, many of whom use and enjoy National Forest lands that will be impacted by the rulemaking.

The Michigan Wetlands Association (MWA) was established in 2010 to protect and restore wetlands and associated ecosystems through science-based programs, education and stewardship. MWA is Michigan's only statewide organization focused exclusively on wetland protection. Its members include wetland professionals, wetland scientists and educators, conservation and environmental organization staff, students, concerned citizens, and local, state, and federal agency staff.

The Native Plant Society of New Mexico, a 501(c)(3) organization, strives to educate the public about native plants by promoting knowledge of plant identification, ecology, and uses; foster plant conservation and the preservation of natural habitats; support botanical research; and

encourage the appropriate use of native plants to conserve water, land, and wildlife. We have over 900 members in 7 chapters located throughout New Mexico and in El Paso, Texas.

The Quiet Use Coalition is a 25-year-old 501(c)(3) non-profit environmental organization working to preserve and create quiet use areas on our public lands and waters, while protecting natural soundscapes and wildlife habitat. Our organization has actively worked to help protect numerous fens facing various threats in central Colorado.

Roaring Fork Audubon is a 501 (c) (3) non-profit organization and a local chapter of the National Audubon Society. We are based in the Roaring Fork Valley, covering three counties, from Aspen to Vail to Rifle in Western Colorado. Our mission is to speak for our wildlife that have no voice, through habitat protections and community education.

Rocky Mountain Wild is a conservation non-profit organization that works to protect, connect, and restore wildlife and wild lands in the Southern Rocky Mountain region. We envision a biologically healthy future for our region – one that includes a diversity of species and ecosystems, thriving populations of wildlife, and a sustainable coexistence between people and nature. Using research, community science, legal action, and advanced geospatial analysis, we offer solutions for conserving our most at-risk animal and plant species and landscapes.

San Juan Citizens Alliance is a 501(c)(3) non-profit organization that operates throughout the San Juan Basin. Our mission is to advocate for clean air, pure water, and healthy lands and wildlife - the foundations of resilient communities, ecosystems and economies.

Save The Bay's mission is to protect and improve Narragansett Bay. Our vision is a fully swimmable, fishable, healthy Narragansett Bay, accessible to all. Save The Bay is an independent, member-supported, nonprofit organization. We got our start as a grassroots organization in 1970, when a small group of concerned citizens came together to fight an oil refinery proposed for the shores of Tiverton. Their work began our legacy as the eyes, ears and voice for Narragansett Bay. Today we carry out our mission through three areas of work: advocacy, education, and habitat restoration and adaptation.

Save The Colorado's mission is to protect and restore the Colorado River from the source to the sea. Save The Colorado has over 500 members and over 40,00 supporters throughout the Southwest U.S.

The Wetlands Initiative (TWI) is a 501(c)(3) organization which designs, restores, and creates wetlands. We innovate, collaborate, and employ sound science to improve water quality, habitat for plants and wildlife, and our climate.

Three Rivers Waterkeeper (3RWK) was founded in 2009 and works to improve and protect the water quality of the Allegheny, Monongahela, and Ohio Rivers. These waterways are critical to the health, vitality, and economic prosperity of our region and communities. 3RWK is both a scientific and legal advocate for the community, working to ensure our three rivers are protected and safe to drink, fish, swim and enjoy.

Twin Harbors Waterkeeper is a 501(c)(3) non-profit organization working to protect water quality and habitat in SW WA State. It engages in education, advocacy, and grassroots organizing to protect the watersheds of SW WA. It was founded in 2018, has over 300 members.

Waterkeeper® Alliance is a global movement uniting more than 300 community based Waterkeeper Organization Members and Affiliates around the world that are dedicated to protecting and restoring water quality to ensure that the world's waters are drinkable, fishable, and swimmable. The Waterkeeper movement patrols and protects over 2.75 million square miles of rivers, lakes, and coastlines in the Americas, Europe, Australia, Asia, and Africa. Waterkeeper Alliance represents the interests of its U.S. Waterkeeper Organization Members and Affiliates, as well the interests of our collective individual supporting members that live, work, and recreate in or near waters across the country—many of which are severely impaired by pollution and degradation.

Waterkeepers Chesapeake fights for clean water and a healthy environment by supporting 17 Waterkeepers throughout the Chesapeake and coastal regions as they protect their communities, rivers, and streams from pollution.

Western Watersheds Project is a nonprofit conservation group dedicated to protecting and restoring wildlife and watersheds throughout the American West. Based in Hailey, Idaho, WWP has over 14,000 members and supporters throughout the United States and the world. WWP has long worked to protect fens and wetlands, advocating for establishing Areas of Critical Environmental Concern in Wyoming and litigating to protect Oregon fens from livestock degradation.

INTRODUCTION

A fen is a peat-forming wetland that provides important ecosystem services such as preventing soil erosion, recycling nutrients, filtering out chemical pollutants, and sequestering atmospheric carbon.[5] In addition to these valuable services, these lush wetlands are biodiversity hotspots, serving as critical habitat for unique plant and animal communities. Protection of existing fens is particularly critical because they are effectively irreplaceable. For example, studies have shown that it can take approximately 2,000 years to accumulate just eight inches of peat at fens in Colorado, suggesting that most fens in the region are between 4,000 to 10,000 years old.[6] While this ancient wetland habitat occupies a small fraction of Forest Service lands in the northeastern United States, the Great Lakes region, and the Rocky Mountains, making them a rare and unique natural resource of outsized importance, fens lack the legal protections needed to remain intact and healthy.

Existing federal wetland protections provided by the U.S. Fish and Wildlife Service ("FWS") Fens Policy and Section 404 of the Clean Water Act are insufficient to protect fens.

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[5] DAVE A. WEIXELMAN, ASSESSING PROPER FUNCTIONING CONDITION FOR FEN AREA IN THE SIERRA NEVADA AND SOUTHERN CASCADE RANGES IN CALIFORNIA 2 (U.S. Forest Service, 2009).

[6] *Fens – the Rocky Mountain's unique high altitude wetlands,* U.S. Forest Service, https://www.fs.usda.gov/detail/gmug/landmanagement/resourcemanagement/?cid=stelprd3803092 (last visited April 20, 2023).

While the FWS Fens Policy identifies fens as irreplaceable, requiring that fens be fully mapped before any project takes place and that all impacts must be avoided, this policy document lacks enforceable prohibitions on the destruction of fens.[7] Meanwhile, Section 404 establishes a permitting process for any discharge of dredged or fill materials into waters of the United States and requires the avoidance or minimization of adverse impacts to wetlands and other aquatic resources to the extent possible. But many fens are not considered "waters of the United States," so lack federal protection under the Clean Water Act. Moreover, the compensatory mitigation framework for wetland fill under Section 404 does not account for the irreplaceable and unique nature of fens.

Petitioners appreciate the Biden-Harris Administration's commitment to protecting our climate, biodiversity, lands, and waters through evidence-based policy making and a coordinated government-wide approach. This includes the Administration's America the Beautiful initiative and 30x30 campaign, as well as the Executive Orders on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis (Executive Order 13990) and Tackling the Climate Crisis at Home and Abroad (Executive Order 14008).

Given the ecological importance and climate benefits of protecting existing fens, the FS should fill in existing regulatory gaps to safeguard the continued existence of healthy fens. In order to fully contribute to confronting the climate crisis as identified by Executive Orders 13990 and 14008, the FS must manage fens in a way that ensures their continued ability to store carbon and support biodiversity. Given the essential role that fens play in carbon storage, biodiversity conservation, providing clean water and other ecosystem services, as well as their irreplaceable nature, we request that the Forest Service adopt new rules that define, and prohibit destruction of, fens on National Forest System lands.

I. Fens are an extremely valuable, irreplaceable natural resource.

A fen is a peat-forming wetland comprised of water-driven, organic material accumulations principally derived from groundwater sources. The Forest Service Handbook defines fens as follows:

> "Geographically restricted wetlands where perennial groundwater discharge occurs on the time scale of millennia and where little erosion or mineral sediment deposition occurs. Fens are generally characterized by their stable presence on the landscape for thousands of years and associated plant and animal communities that may be relics from historic glaciation periods."[8]

The FWS also suggests a soil composition component is needed to define fens.[9] A fen's soil should meet the Natural Resources Conservation Service's definition of either a Histic epipedon or a Histosol in at least some part of the contiguous wetland.[10] These soils are defined

[7] U.S. FISH & WILDLIFE SERVICE REGION 6, PEATLAND MITIGATION POLICY CONSIDERATIONS 1 (1999) [hereinafter FWS Fens Policy].

[8] Forest Service Handbook, 2509.25 5.5.06.

[9] FWS Fens Policy, supra note 7, at 1-2.

[10] *Id.*

in part by their slow formation over time, occurring when plant debris in waterlogged areas accumulate, such that growth exceeds decomposition and decomposition progresses very slowly.[11] Fens are rare, but geographically widespread. They are found mostly in the northern hemisphere, generally in areas with low temperatures and short growing seasons where excessive moisture accumulates from rain or snow. They occur in the northeastern United States, the Great Lakes region, the Rocky Mountains, the mountains of the Sierra Nevada, coast range and southern Cascades, as well as in the southeastern United States and Canada.[12]

A. Fens play a key role in climate resilience as carbon sinks, and must be kept intact to promote carbon capture, cooling effects, and water storage.

Fens play an important role in "nearly all scenarios" of carbon induced climate change because they are a major sink for atmospheric carbon.[13] Carbon accumulates in peatlands because the annual average primary production is greater than the annual decomposition of organic matter.[14] Peatlands such as fens store approximately 44% of the world's soil carbon, which equates to a carbon stock of more than 600 gigatons or 19 times the total amount of global energy-related emissions produced in one year.[15] In addition to carbon sequestration, undisturbed peatlands have a net cooling effect, providing long-term mitigation of radiative warming.[16]

However, when groundwater processes that feed fens are interrupted or when fens are otherwise damaged, they can quickly convert from being carbon sinks to carbon sources. In Rocky Mountain National Park, several diversion ditches affect local water table levels, and a study of Moose Fen on the west side of the park found that carbon dioxide emissions increased dramatically when the water table dropped below the soil surface.[17] The results of this study indicate that there's an easily oxidized carbon pool near the soil surface of fens, and support previous findings that hydrologic changes due to climate change, groundwater pumping, or water diversions can significantly influence carbon emissions in fens.[18]

Fens also play an important water storage role, improving hydrologic resilience in the face of climate change. The Forest Service has previously recognized the important water storage

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[11] Memorandum from U.S. Fish and Wildlife Service Regional Director, Region 6 on the Reg'l Pol'y on the Prot. of Fens, As Amended to Project Leaders for Ecological Serv., Refuges and Wildlife, and Fish and Wildlife Mgmt Assistance, Region 6 (January 20, 1999) [hereinafter FWS Memo].

[12] *What is a Fen?*, U.S. FOREST SERVICE, https://www.fs.fed.us/wildflowers/beauty/California_Fens/what.shtml (last visited Aug. 8, 2022) [hereinafter USFS Fens].

[13] Weixelman, *supra* note 5.

[14] Clymo, R.S. 1983. Peat. In: Gore, A.J.P. (Ed.), Ecosystems of the World, 4A. *Mires: swamp, bog, fen and moor*, General Studies, Elsevier, Amsterdam, 159 – 224.

[15] International Union for Conservation of Nature (IUCN). 2021. *Peatlands and Climate Change*, Issues Brief. *See also* International Energy Agency, Global Energy Review 2021, CO2 Emissions. *https://www.iea.org/reports/global-energy-review-2021/co2-emissions*.

[16] Taillardat, P., Thompson, B. S., Garneau, M., Trottier, K., & Friess, D. A. 2020. *Climate change mitigation potential of wetlands and the cost-effectiveness of their restoration.* Interface Focus, *10*(5). https://doi.org/10.1098/rsfs.2019.0129.

[17] Chimner, R.A. & Cooper, D.J. 2003. *Influence of water table levels on CO2 emissions in a Colorado subalpine fen: an in situ microcosm study*. Soil Biology & Biochemistry 35: 345-351.

[18] Weixelman, *supra* note 5.

capacity of fens, which can "behave hydrologically like unregulated, shallow reservoirs," influencing "water, sediment and nutrient movement in watersheds."[19] High elevation, headwater wetlands play a particularly important role in water storage and generation of streamflows, promoting stable baseflows and reducing the risk of downstream storage.[20] With climate change projected to reduce natural flows in the Colorado River by as much as 55% by 2100[21], protecting the water storage capacity of fens in the headwaters of the Colorado River Basin is critical to mitigating the impacts of climate change on this critical hydrologic artery of the West.

Fen restoration may provide some climate mitigation benefits, but preserving the ecological integrity of these existing wetlands is the best way to retain their ecosystem services now, including both carbon capture and water storage benefits. Through the Mt. Pleasant Fen Restoration Project in the Plumas National Forest, restoration activities on five acres of fens yielded improved hydrologic function and increased the carbon storage capacity of the landscape, resulting in an estimated 4.8 million gallons of water storage and 2 million metric tons of carbon sequestration.[22] However, there are differences in the ability of restored peatlands to regulate water and store carbon. For example, restored peat may not be able to hold onto water in the same way as undisturbed peat.[23] Restored peatlands can continue to be net carbon emitters because the restored vegetation may have lower productivity or less recalcitrant litter quality, limiting how much carbon can be sequestered.[24] Furthermore, restored peatlands have been shown to have a net warming effect, suggesting that restored wetlands are not able to mitigate radiative warming as intact fens do, and may even contribute to increased local temperatures.[25]

Unfortunately, restoration activities on fens can even backfire. Rewetting is a commonly used technique to attempt to restore drained fens, and can be successful in reducing carbon dioxide emissions. However, rewetting alters the geochemistry of peat, which often leads to sustained elevated methane emissions.[26] On a 100-year timescale, methane has a global warming

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[19] K. Dwire, U.S. Forest Service, Conserving Mountain Fens on the Grand Mesa-Uncompahgre-Gunnison National Forests (2022), https://cfri.colostate.edu/wp-content/uploads/sites/22/2022/03/Conserving_Mtn_Fens_GMUG_Dwire.pdf.

[20] K. Rains, The Role of High Elevation Wetlands (Paramos) to Water Security in the Colombian Andes (2017), https://waterinstitute.usf.edu/projects/details/189/the-role-of-high-elevation-wetlands-pramos-to-water-security-in-the-colombian-andes/; U.S. Envtl. Prot. Agency, Classification and Types of Wetlands (last accessed June 2, 2023), https://www.epa.gov/wetlands/classification-and-types-wetlands#undefined.

[21] B. Udall & J. Overpeck, The Twenty-First Century Colorado River Hot Drought and Implications for the Future, WATER RESOURCES RESEARCH (2017), https://agupubs.onlinelibrary.wiley.com/doi/full/10.1002/2016WR019638.

[22] Fen Restoration on the Plumas, U.S. Forest Service, https://www.fs.usda.gov/detail/r5/landmanagement/?cid=fseprd587865 (last visited April 20, 2023).

[23] Loisel, J. & Gallego-Sala, A. 2022. Ecological resilience of restored peatlands to climate change. Earth & Environment, Communications, 3:208. https://doi.org/10.1038/s43247-022-00547-x.

[24] *Id*.

[25] Taillardat et al., *supra* note 16.

[26] Wen, X., Unger, V., Jurasinski, G., Koebsch, F., Horn, F., Rehder, G., Sachs, T., Zak, D., Lischeid, G., Knorr, K. H., Böttcher, M. E., Winkel, M., Bodelier, P. L. E., & Liebner, S. (2018). Predominance of methanogens over methanotrophs in rewetted fens characterized by high methane emissions. Biogeosciences, 15(21), 6519–6536. https://doi.org/10.5194/bg-15-6519-2018.

potential that is 28 times stronger than that of carbon dioxide[27], meaning that attempting to restore drained fens by rewetting can be harmful from a near-term climate perspective. Degradation of peatlands due to land use change and drainage is currently responsible for 5-10% of global anthropogenic greenhouse gas emissions, highlighting the importance of keeping existing fens intact.[28]

When fens are in proper functioning condition, they provide nature-based solutions for climate change adaptation and mitigation, including lowering ambient temperatures, regulating water flows, minimizing the risk of drought and flooding, and preventing seawater intrusion.[29] As the full extent of peatland ecosystem services and functions cannot be restored easily, and damaged fens contribute to greenhouse gas emissions, the protection of intact fens should be prioritized to promote climate resilience.

B. Fens are biologically unique, and vital to the health of local ecosystems.

As one of the rarest types of wetlands, fens are unique habitat systems that benefit plants, animals and humans.[30] Fens act as a barometer for the health of the groundwater that species and humans depend on,[31] and play a central role in local ecosystems, including important hydrological and water quality functions.[32] By interfacing between groundwater and surface water, fens act as a primary buffer between downstream waters and nutrients, and other pollutants moving from upland areas.[33] For humans, they present valuable recreation opportunities for birders, botanists, and hunters,[34] and act as important sites of groundwater discharge.[35] The vegetation in the wetland recycles nutrients, traps eroding soil, and is a natural filter for polluting chemicals such as nitrates.[36]

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[27] European Union (EU), Methane emissions, Energy. https://energy.ec.europa.eu/topics/oil-gas-and-coal/methane-emissions_en#:~:text=On%20a%20100%2Dyear%20timescale,relevant%20to%202050%20climate%20objectives. (Last accessed May 10, 2023).

[28] Loisel & Gallego-Sala, *supra* note 23.

[29] IUCN, *supra* note 15.

[30] *Id. See also* FENS: WILDLIFE ACTION PLAN, MICHIGAN DEPARTMENT OF NATURAL RESOURCES 2, https://www.michigan.gov/-/media/Project/Websites/dnr/Documents/WLD/WAP/12_fen.pdf?rev=4ee1277ddead47d6b4faf9e6e3f6c630 [hereinafter Fen Action Plan].

[31] *Id.*

[32] *See* FWS Fens Policy, *supra* note 7 at 1 ("Rare native cutthroat trout often benefit from the water cleansing action of fens in headwaters of streams... [and they] possess unique biotic assemblages, especially fens that are high in pH and calcium.").

[33] Barbara L. Bedford & Kevin S. Godwin, *Fens of the United States: Distribution, characteristics, and scientific connection versus legal isolation*, WETLANDS 23, 608 (2003).

[34] Fen Action Plan, *supra* note 30.

[35] USFS Fens, *supra* note 12.

[36] *Id.*

Fens are also "hotspots of biodiversity."[37] Fens support the highest biodiversity found among wetlands.[38] When compared to other habitats, fens can support a disproportionately large number of rare plant species, underscoring how important fen habitats are for regional biological diversity.[39] For example, in Iowa, 134 uncommon or rare species were found in fens.[40] Larger animals such as deer find forage in fens, and fens also support a variety of endangered and threatened species.[41] These include bog turtles, gray wolves, lynx, grizzly bears, and Indiana bats, to name a few.[42] Thus fen protection is vital to the health of local ecosystems and important to rare and threatened species that rely on this important type of habitat.

C. Fens are an irreplaceable resource, but still face many threats on federal lands.

EPA estimates that wetlands continue to be lost at a rate of 60,000 acres annually.[43] While no comprehensive inventory of fens exists, some individual states provide data that demonstrate their decline in recent decades. In Michigan, an assessment conducted over ten years of one third of the state's 278 fens revealed that 55% of assessed fens were downgraded in quality, while only 13% saw an increase in quality.[44]

Unlike other wetlands, fens cannot be replaced through mitigation practices, and there is no known method to create new fens of equivalent ecological value and function, or even to restore a severely degraded fen.[45] Existing peatland restoration strategies generally target only one type of environmental stressor, such as rewetting or topsoil removal, which has been shown to be insufficient to restore a functional fen ecosystem.[46] A novel approach to fen-mitigation by the Rocky Mountain Research Project involves transplanting fens and has been met with some limited success, but such efforts still cannot fully avoid impacts or result in "no loss," as required for these unique wetlands.[47] It takes thousands of years for a fen to develop, and thus "such

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[37] *Id.*

[38] Lamers, L.P.M., M.A. Vile, A.P. Grootjans, M.C. Acreman, R. van Diggelen, M.G. Evans, C.J. Richardson, L. Rochefort, A.M. Kooijman, J.G.M. Roelofs, and A.J.P. Smolders. 2015. Ecological restoration of rich fens in Europe and North America: from trial and error to an evidence-based approach. Biol. Rev. 90:182 – 203 pp.

[39] Weixelman, *supra* note 5.

[40] Bedford, *supra* note 33.

[41] USFS Fens, *supra* note 12.

[42] Bedford, *supra* note 33.

[43] *Threats to Wetlands*, U.S. Env't Prot. Agency (2001), https://www.epa.gov/sites/default/files/2016-02/documents/threatstowetlands.pdf.

[44] Fen Action Plan, *supra* note 30, at 3.

[45] FWS Fens Policy, *supra* note 7, at 3. *See also* Aspen Journalism, *Efforts to relocate an ancient wetland could help determine the fate of a water project on Lower Homestake Creek*, THE WATER DESK (Dec. 2, 2019) https://waterdesk.org/2019/12/lower-homestake-creek-dam-wetland/ (describing a notable study conducted that attempted to restore fens, called the "Rocky Mountain Fen Research Project," was not working towards a net-zero loss of wetlands. The study tried to determine an effective method to transplant existing fen soil to existing groundwater spring locations, essentially changing the type of wetland in the location and resulting in a decrease of total wetlands acreage).

[46] Klimkowska, Agata et al. 2019. *Are we restoring functional fens? – The outcomes of restoration projects in fens re-analysed with plant functional traits*, PloS One 14(4): e0215645. Doi:10.1371/journal.pone.0215645

[47] Aspen Journalism, *supra* note 45.

wetlands cannot seriously be considered a renewable resource."[48] As such, the attributes of fens that make them unique and provide myriad benefits and functions also illustrate how irreplaceable they are.

Land use activities common to federal lands and forests put fens at risk. Changes in prescribed fire and hydrology practices pose a threat to fens because of losses of key disturbance regimes that historically kept fen ecosystems open.[49] As a groundwater-reliant habitat, any disturbance that significantly impacts water quantity or quality is a threat to the health of a fen.[50]

For example, the construction of roads or ponds for personal and agricultural use changes surface and subsurface hydrology, which significantly alters fens.[51] Water diversions, ditches, and roads can divert runoff and result in less water in the fen, which in turn leads to decomposition and changing hydrologic patterns, resulting in a change in plant species composition.[52] Timber harvest activities can also reduce water losses due to evapotranspiration, which disrupts fens by increasing their water supply.[53] Logging practices have the potential to add sediment to fen areas and otherwise negatively affect the quality of the water entering fens.[54] Livestock management also impacts fens due to trampling, compacting the peat that fens are made up of, initiating erosion and gully formation, and creating bare areas in or around fens.[55] The presence of livestock also can damage fens "by 'nutrient enrichment owing to direct deposit of bovine fecal waste and urine,' which alters competitive balances among fen plant species."[56] Off highway vehicles expose soil and bare peat, creating channels in fens that compact the soil and divert water, while over-snow vehicles eliminate the insulating function of snow cover in a way that causes fens to freeze.[57]

Additionally, due in part to their limited capacity for adaptation, wetlands have been considered among the ecosystems most vulnerable to climate change."[58] This holds true to climate impacts to fen ecosystems. Fens' delicate ecosystems are also threatened by invasive species, which degrade habitats and out-compete native plants that are important as food sources.[59] Groundwater extraction used in agricultural practices also can negatively affect fen hydrology, along with draining and tilling.[60] Practices that may result in a loss of connectivity

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[48] FWS Fens Policy, *supra* note 7, at 3.

[49] Fen Action Plan, *supra* note 30, at 9.

[50] Weixelman, *supra* note 5, at 6.

[51] Fen Action Plan, *supra* note 30; Hine's Emerald Dragonfly (Somatochlora hineana) recovery plan. Fort Snelling, MN. (1997). *See also id.*

[52] Weixelman, *supra* note 5, at 6.

[53] Fen Action Plan, *supra* note 30, at 9.

[54] *Id.*

[55] Weixelman, *supra* note 5, at 7.

[56] *Concerned Friends of the Winema v. Douglas C. McKay*, 2019 U.S. Dist. LEXIS 113277, 17.

[57] *Id.*

[58] *Id.* at 6.

[59] *Id.* at 9; Kost, M.A. and D.A. Hyde. 2009. Exploring the prairie fen wetlands of Michigan. Extension Bulletin E-3045. Michigan Natural Features Inventory, Michigan State University Extension, East Lansing, MI. 106 pp., USFWS (2001).

[60] Fen Action Plan, *supra* note 30, at 10.

between fens and open habitats, restricting wildlife movements, also threaten the health of fens.[61] These changes that alter the connecting corridors between fens inhibit the species' capacity to move naturally, or adapt to changing habitat.[62] While fens serve central roles in their ecosystem and provide beneficial uses to humans as well, without proper recognition and protection of fens, these benefits will be lost forever.

II. Existing wetlands protections and policies do not ensure the continued existence of healthy fens.

The federal government acknowledged the ecological importance of wetlands as early as 1977, when President Jimmy Carter issued an executive order requiring federal agencies to, whenever possible, take steps to minimize impacts to wetlands.[63] Ten years later, the George H.W. Bush administration established a national, no-net loss policy for wetlands, which was renewed by subsequent administrations. With the goal of "offsetting" a net loss of wetlands, this policy requires the creation of new, replacement wetlands of similar size, ecological value, and function to compensate for any new impacts to existing wetlands.[64] Today, this wetland mitigation policy is largely implemented through Section 404 of the Clean Water Act. 33 U.S.C. § 1344 et seq. Wetlands on agricultural lands are also subject to the Food Security Act, 16 U.S.C. § 3801 et seq., which withholds certain Federal farm program benefits from farms that convert or modify wetlands.[65] FWS also has a program that provides technical assistance and cost-share incentives directly to landowners for wetland restoration projects, but only on private land.[66] The FWS is the principal agency tasked with providing information to the public on the status and trends of U.S. wetlands, via the National Wetlands Inventory (NWI). Through the NWI, FWS also provides national wetlands status updates and trends reports that Congress requires. A patchwork of state and local protections for fens exists in some areas, as well, but generally lacks the comprehensive scope and enforceable protections that are needed to fully protect fens, many of which are found on federal lands and require federal protections.

A. The U.S. Fish and Wildlife Service's wetland protection programs and fen protection policy do not ensure fen protection in National Forests.

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[61] *Id.* quoting U.S. Fish and Wildlife Service (USFWS). 1997. Recovery plan for Mitchell's Satyr butterfly Neonympha mitchellii mitchellii French (Lepidoptera: Nymphalidae: Satyrinae). Fort Snelling, MN. Viii + 71 pp.).

[62] *Id.*

[63] Exec. Order No. 11,990, 42 Fed. Reg. 26,961 (May 24, 1977).

[64] Memorandum from President Barack Obama on Mitigating Impacts on Natural Resources from Development and Encouraging Related Private Investment to the Sec. of the Int., the Sec. of Agric., the Adminr. of the Envtl. Prot. Agency, and the Adminr. of the Natl. Oceanic and Atmospheric Admin. (Nov. 03, 2015). https://obamawhitehouse.archives.gov/the-press-office/2015/11/03/mitigating-impacts-natural-resources-development-and-encouraging-related.

[65] U.S. Envtl. Prot. Agency, *Wetland Regulatory Authority*, https://www.epa.gov/sites/default/files/2016-02/documents/regulatoryauthority.pdf. *See also* 7 C.F.R. §§ 12.1–12.33.

[66] WETLANDS: AN OVERVIEW OF ISSUES, CONGRESSIONAL RESEARCH SERVICE 17 (Jan. 15, 2017), https://crsreports.congress.gov/product/pdf/RL/RL33483 [hereinafter CRS Wetlands Report]. *See also Partners for Fish and Wildlife*, U.S. Fish and Wildlife Service, www.fws.gov/partners/. Approximately 75% of wetlands in the lower 48 states are on privately owned land. Envtl. Prot. Agency, *Wetlands Protection: Partnering with Land Trusts*, https://www.epa.gov/sites/default/files/2021-01/documents/wetlands_protection_partnering_with_land_trusts.pdf.

The irreplaceable nature of fens led the FWS in Region 6 to draft a policy in conjunction with EPA solely to protect fens, approved in 1998.[67] FWS stated the protection and conservation of mountain and prairie fens as "one of the highest wetland priorities in [Region 6]."[68] FWS determined that, because of fens' uniqueness and vulnerability, all fens that qualified as "functioning"[69] should fall within the Resource Category 1 of FWS's Fens Policy. Resource Category 1 has a mitigation goal of "no loss of existing habitat value," meaning every reasonable effort should be made to avoid impacting that habitat type. The policy also stated the protection and conservation of fens as a priority for FWS in Region 6 and encouraged interagency prioritization.[70] FWS recognized the importance of documenting fens separately from other wetlands, suggesting that the locations of fens should be obtained in conjunction with wetland delineations done during development of section 404 permits, and fens should be added to regulatory databases and considered a Resource Category 1 habitat.[71] The FWS policy acknowledges that the science behind fen formation makes it impossible to replace a fen once it has been altered, or create a new wetland of the same biological functions. To be effective, however, this policy should be bolstered by enforceable prohibitions on fen destruction that go beyond agency policy documents. And the policy should apply nationwide.

B. CWA Section 404 wetland mitigation policy does not fully protect fens.

While Section 404 is the central federal regulatory program protecting wetlands, due to the nature of the scheme it does not provide a comprehensive protective scheme that can be relied on to adequately protect fens, especially those on federal public lands.[72]

First, Section 404 requires permits for the discharge of dredged or fill materials into many, *but not all* wetland areas.[73] As construed by the Supreme Court, Section 404 only protects wetlands that are considered "waters of the United States," which generally requires a demonstration that wetlands are "adjacent to" and have a "continuous surface connection" to other federally-protected waters.[74] With recent Supreme Court precedent narrowing the scope of Clean Water Act jurisdiction as governed by the regulatory definition of "waters of the United States,"[75] many fens could be outside the reach of federal Clean Water Act protections.

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[67] FWS Memo, *supra* note 11, at 1.

[68] *Id.*

[69] A functioning fen must (a) continue to support native plant communities and perform functions inherent to fens or (b) have the potential to rapidly recover those functions with the removal or rectification of drainage, grazing, or other impacts. FWS Fens Policy, *supra* note 7, at 3.

[70] *Id.* at 3-4. For example, FWS requested that applicable Army Corps engineers revoke the use of 404(e) permits for projects involving fens. FWS Region 6 field offices also would work closely with the Corps to ensure applications involving fens meet EPA's 404(b)((1) Guidelines. *Id.*

[71] FWS Fens Policy, *supra* note 7, at 2.

[72] *See* CRS Wetlands Report, *supra* note 66 at 3.

[73] *Id.* (Regulated wetlands under 404 are currently identified using technical criteria in a wetland delineation manual issued by the Corps in 1987).

[74] *Sackett v. EPA*, No. 21-454, 598 U.S. __ (2023)

[75] U.S. Envtl. Prot Agency, Waters of the United States, https://www.epa.gov/wotus/about-waters-united-states (last accessed June 2, 2023).

Second, fens are not only threatened by the discharge of dredged and fill materials covered by Section 404. In fact, there are many other activities that threaten fens that would not be governed under the Clean Water Act, even where threatened fens are considered under federal jurisdiction.[76] For example, drainage of fens through groundwater pumping would generally not require any federal Clean Water Act permit.

Third, even where Clean Water Act Section 404 applies, it does not adequately protect fens. Questions surrounding the overall effectiveness of wetland mitigation practices abound. Many scientists do not believe restored or created wetlands provide equivalent replacement for natural wetlands that contribute multiple environmental services and values.[77] Mitigation implementation has a conflicted record, and there is "little data" to support the view that current efforts provide the same environmental value as undamaged wetlands.[78] This problem is compounded in the case of fens, because the unique features that define a fen need the element of time to develop. When a wetland such as a fen is altered, the composite value typically declines, and the effects of alteration "often extend well beyond the immediate area, because wetlands are usually part of a larger water system."[79] Additionally, the multiple values that a fen provides, such as fish and wildlife habitat and water purification, are not recognized by a statutory scheme like the CWA 404 program, which is based principally on water quality and the prohibition of unpermitted discharges.[80] Thus, fens cannot depend only on the 404 permitting process or other existing environmental statutes and regulations for their protection.[81] Taken along with the fact that the enforceable FWS fen protections apply only to wetlands on private lands, there is currently a glaring regulatory gap leaving a unique and vital natural resource vulnerable to irreparable damage.

C. The Forest Service has not taken action to protect fens in National Forests through recent rulemaking opportunities.

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[76] CRS Wetland Report, *supra* note 66, at 1.

[77] Wetlands, An Overview of Issues, Congressional Research Service, Jan 5 2017 at Introduction., and at 22. https://crsreports.congress.gov/product/pdf/RL/RL33483.

[78] CRS Wetlands Report, *supra* note 66, at 22.

[79] *Id.* at 3.

[80] *Id.* at 7.

[81] *See e.g.*, *Biodiversity Conservation Alliance v. United States Forest Serv*., 765 F.3d 1264 (10th Cir. 2014) (denying hard look NEPA claims about how FS evaluated fens in authorizing user created motorcycle trail); *Concerned Friends of the Winema v. United States Forest Serv*., No. 1:14-CV-737-CL, 2016 WL 10637010, at *9 (D. Or. Sept. 12, 2016) (denying claims for noncompliance with forest plan even where "Plaintiffs here raise genuine concerns as to whether the Forest Service has taken the degradation of fens into account, and the conditions of fens appear to be demonstrably compromised, it is not within the province of this Court to question the Forest Service's expertise of this issue."); *Concerned Friends of the Winema v. McKay*, No. 1:19-cv-00516-MC, 2019 WL 2994203 (D. Ore. July 9, 2019) (finding that nearly certain livestock damage to fen would not constitute irreparable harm for purposes of preliminary injunction); *Or. Natural Desert Ass'n v. Sabo*, 854 F. Supp. 2d 889 (D. Or. 2012) (denying preliminary injunction because plaintiff could not show existing irreparable harm was caused only by cattle); *Cent. Sierra Envtl. Res. Ctr. v. Stanislaus Nat'l Forest*, No. 117CV00441LJOSAB, 2019 WL 3564155, at *26-27 (E.D. Cal. Aug. 6, 2019) (denying claims that USFS failed to meet its own standards and guidelines in LRMP about fen avoidance and mitigation in grazing allotments; deferred to agency's interpretation of its own management plans and the science).

On April 21, 2023, the Forest Service released an advanced notice of proposed rulemaking ("ANPRM") to gather input on how the FS could develop new policies or build on current policies to improve their ability to foster climate resilience, 88 Fed. Reg. 22497-24503.

Through this ANPRM, the Forest Service aimed to demonstrate their ongoing commitment to climate-adapted approaches to managing national forests and grasslands, building on Section 2 of Executive Order 14072, *Strengthening the Nation's Forests, Communities, and Local Economies*[82] and the 2012 National Forest System Land Management Planning Rule[83]. The 2012 Planning Rule contained "a strong emphasis on protecting and enhancing water resources, restoring land and water ecosystems, and providing ecological conditions to support the diversity of plant and animal communities, while providing for ecosystem services and multiple uses." Meanwhile, Section 2 of Executive Order 14072 called attention to the important role that mature and old-growth forests play as nature-based climate solutions given that they increase biodiversity and store large amounts of carbon.

Similar to the mature and old-growth forests highlighted by Executive Order 14072, fens are a nature-based solution to climate mitigation, as they sequester environmental carbon, reduce local temperature, and increase biodiversity. WildEarth Guardians, Wilderness Workshop, California Native Plant Society, Center for Biological Diversity, Colorado Chapter of the Sierra Club, ColoradoWild, Eagle River Watershed Council, Eagle Summit Wilderness Alliance, Great Old Broads for Wilderness, Michigan Wetlands Association, Northern San Juan Broadband, Quiet Use Coalition, Roaring Fork Audubon, Rocky Mountain Chapter of Society of Wetland Scientists, San Luis Valley Ecosystem Council, Save The Colorado, and The Wetlands Initiative ("Commenters") submitted comments on July 18, 2023 asking that the Forest Service strengthen legal protections for fens through their ANPRM.

Defining and protecting fens as part of that ANPRM offers an important opportunity for the FS to build on Executive Order 14072 and the 2012 Planning Rule. However, given the uncertainty regarding the timing and outcome of the ANPRM process, Petitioners provide this separate petition to ensure that the issue of fens protection receives proper, timely consideration. Whether through adoption of a new fens protection rule through a broader climate resilience rulemaking effort or through a more narrowly focused regulatory process, the Forest Service should adopt a new fens protection rule to address existing regulatory gaps and contribute to mitigating the increasing systemic impacts of climate change.

III. The Forest Service plays an important regulatory role in protecting fens on federal land.

The U.S. Forest Service's mission is to sustain the health, diversity, and productivity of forest resources to meet the needs of present and future generations."[84] The FS is the only

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[82] Executive Office of the President [Joseph Biden]. Executive Order 14072: Strengthening the Nation's Forests, Communities and Local Economies (87 Fed. Reg. 24,851, 24,855 (April 22, 2022)) [Hereinafter Executive Order 14072].

[83] 36 C.F.R.§219 (2012) (77 Fed. Reg. 21260 (April 9, 2012)) [Hereinafter Planning Rule].

[84] *Meet the Forest Service*, U.S. Forest Service, USDA, www.fs.usda.gov/about-agency/meet-forest-service#:~:text=The%20mission%20of%20the%20Forest,of%20present%20and%20future%20generations.

federal land management agency with an explicit biodiversity conservation mandate in its organic statute.[85] Forests, forest resources, and the forest environment are exhaustible natural resources that require effective conservation efforts. 16 U.S.C. § 1133(b). Rare fens currently provide outsized benefits to the health, diversity, and productivity of many national forests, including the Nantahala National Forest in North Carolina[86], the Salmon Challis National Forest in Idaho,[87] the White River National Forest in Colorado[88], and the Ashley National Forest in Utah and Wyoming. For example, in 2012, a mapping project in Ashley National Forest revealed 8,614 potential fen locations covering 13,869 acres.[89]

Since 1960, Congress has tasked the FS to not only maintain National Forest Systems lands ("NFS land") for economic purposes, but also to provide environmental protection.[90] Under the National Forest Management Act ("NFMA"), forest plans must provide for multiple uses, including ensuring coordination of outdoor recreation, range, watershed, wildlife and fish, and wilderness on FS lands.[91] This includes promulgating regulations for land management plans based on these multiple use objectives. Such plans are intended to ensure timber harvests will not irreversibly damage soil, slope, and other watershed conditions, to protect against detrimental changes in water temperatures and blockages of water courses, and to provide deposits of sediment needed for wetlands and other bodies of water.[92] FS regulations also require protection of important natural resources on FS lands. *See* 36 C.F.R. § 261.9.

Additionally, as a federal agency the Forest Service has a duty to comply with federal environmental statutes including the Endangered Species Act ("ESA"), 16 U.S.C. §§ 1531–1544 (2018), and the National Environmental Policy Act ("NEPA"), 42 U.S.C. §§ 4331–4370 (2018). NEPA recognizes the "critical importance of restoring and maintaining environmental quality to the overall welfare and development of man." 42 U.S.C. § 4331(a). Under NEPA, the federal government has a continuing responsibility to "use all practical means" to improve federal plans and programs in alignment with the Nation's responsibility as a trustee of the environment, and attain the widest range of beneficial uses of the environment without degradation, risk to health

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[85] NFMA directs the agency to "provide for diversity of plant and animal communities based on the suitability and capability of the specific land area in order to meet overall multiple-use objectives." 16 U.S.C. § 1604(g)(3)(B).

[86] Blue Ridge National Heritage Area, Nantahala River Bogs, https://www.blueridgeheritage.com/destinations/nantahala-river-bogs/#:~:text=The%20Nantahala%20River%20Bogs%20Natural,animals%2C%20including%20the%20bog%20turtle.

[87] Colorado Natural Heritage Program, Fen Mapping for the Salmon Challis National Forest (2017), https://cnhp.colostate.edu/download/documents/2017/Fen_Mapping_for_the_SalmonChallis_NF_Final.pdf.

[88] Colorado Natural Heritage Program, Wetland Mapping and Fen Survey in the White River National Forest (2011), https://cnhp.colostate.edu/download/documents/2011/WRNF_Wetland_Report_2011_final.pdf.

[89] Colorado Natural Heritage Program, Fen Mapping For the Ashley National Forest, Colorado (April 2017), http://www.cnhp.colostate.edu/download/documents/2017/Fen_Mapping_for_the_AshleyNF_FINAL.pdf. As part of a biological assessment conducted in response to a new planning rule, the Forest Service contracted the Colorado Natural Heritage Program (CNHP) and Colorado State University to map all potential fens within the Ashley National Forest.

[90] CRS Wetlands Report, *supra* note 66. Multiple-Use Sustained Yield Act of 1960: "The establishment and maintenance of areas as wilderness are consistent with the purposes and provisions of this Act."

[91] 16 U.S.C. § 1604(e)(1).

[92] 16 U.S.C. § 1604(g)(3)(B), (E)(i),(iii).

or safety, or other undesirable and unintended consequence." 42 U.S.C. § 4331(b). This directs policies and regulations to be administered in accordance with these policies, to the fullest extent possible. *Id.*

Under Section 7(a)(1) of the ESA, the Forest Service has a duty to proactively use its authority to further the conservation of endangered and threatened species on NFS lands.[93] Under Section 7(a)(2), the Forest Service must ensure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of any listed species, or result in the destruction of adverse modification of critical habitat. 16 U.S.C. §§ 1531 et seq.; 42 C.F.R. § 402.01(a). Existing federal policy also recognizes and emphasizes the crucial importance of habitat conservation, especially in light of the growing climate and biodiversity crises.[94] One of President Biden's first actions in office was to sign the Executive Order on Tackling the Climate Crisis at Home and Abroad, which pledged to work towards the goal of protecting at least 30% of America's lands and 30% of its ocean areas by 2030 (30x30).[95] The 30x30 initiative seeks to reverse negative impacts of biodiversity decline by protecting more natural areas, and expanding collaborative conservation of fish and wildlife habitats and corridors is one of Biden's recommendations for early focus.[96] The NFS contains over 400 species of plants and animals listed as threatened or endangered, and 3,500 that have been designated as sensitive and require special management.[97] As outlined above, fens provide a disproportionate amount of support and habitat to rare species, as well as numerous ecosystem services that contribute to climate mitigation and adaptation. Protecting fens thus falls under the Forest Service's statutory obligations, broad objectives and duties, as well as newer policy objectives regarding climate change, representing an opportunity that cannot be missed to foster conservation and climate resilience.

IV. The Forest Service should add the following rule to 36 C.F.R. § 261.9 prohibiting damaging or destroying any wetland classified as a fen.

Federal agencies have already recognized the biological significance of fens, and science supports the need for further protections moving forward that are strong and enforceable. Fens are very sensitive to many activities that occur on Forest Service land, and their protection will have positive ripple effects on the health and resilience of forest ecosystems. The irreplaceable nature of fens as well as the broad scope of their impact on climate resilience and biodiversity conservation necessitates straightforward protection not provided by other statutes.

As of August 8, 2022, § 261.9 has subsections (a)-(i); therefore, the proposed rule prohibiting damaging or destroying any wetland classified as a fen should be § 261.9(j). The new

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[93] 16 U.S.C. at §§ 1531(c), 1536(a); 50 C.F.R. § 402.01.

[94] *Executive Order on Tackling the Climate Crisis at Home and Abroad*, THE WHITE HOUSE BRIEFING ROOM, January 27, 2021, https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/27/executive-order-on-tackling-the-climate-crisis-at-home-and-abroad/.

[95] *Id.*

[96] Helen O'Shea & Zak Smith & Kate Poole, *Biden Administration Lays out 30x30 Vision to Conserve Nature*, NAT. RES. DEF. COUNCIL. (May 6, 2021), https://www.nrdc.org/experts/helen-oshea/biden-administration-lays-out-30x30-vision-conserve-nature.

[97] CRS Wetlands Report, *supra* note 66, at 9.

regulation should read: "Disturbing, draining, excavating, digging in, removing, discharging a pollutant into, or otherwise damaging any fen resource."

Additionally, the Forest Service should add a definition of "fen" to § 261.2. This definition should follow the definition for the Forest Service's Handbook: "Fen: Geographically restricted wetlands where perennial groundwater discharge occurs on the time scale of millennia and where little erosion or mineral sediment deposition occurs. Fens are generally characterized by their stable presence on the landscape for thousands of years and associated plant and animal communities that may be relics from historic glaciation periods."[98] Moreover, in order to adequately protect fens, no "special use authorizations" should be granted which are likely to cause harm to, or the destruction thereof, fens.

V. Conclusion

Fens are considered one of the ecosystems most vulnerable to climate change, and they have already been declining precipitously due to land use activities common to federal lands and forests. Fens filter pollutants from water and support rare assemblages of plants and animals while acting as critical carbon sinks and providing cooling effects, yet existing regulations fail to adequately protect these valuable wetlands. Promulgating the above rule to define and prohibit destruction of fens is a clear way that the Forest Service can build upon existing national policies and investments in climate resilience, watershed protection and wildlife conservation. We hope that the agency will address existing regulatory gaps around the protection of fens and provide for ecological integrity by adopting the above suggested language in a new rule.

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[98] Forest Service Handbook, 2509.25 5.5.06.

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