

## CONNECTIVITY CONSERVATION

SUSTAINING NETWORKS FOR ECOLOGY AND COMMUNITY

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# Build back a better National Landscape Conservation Network



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**John Mankowski**, *Mankowski Environmental LLC***Greg Wathen**, *Tennessee Wildlife Resources Agency (retired)***Aaron Poe**, *Alaska Conservation Foundation***Rua Mordecai****Anna Wearn**, *Center for Large Landscape Conservation***CORRESPONDING AUTHOR****John Mankowski**, Mankowski Environmental LLC, 14530 McIntosh Lane SE, Tenino, WA 98589-9404;[john@mankowskienvironmental.com](mailto:john@mankowskienvironmental.com)**ABSTRACT**

The US Department of the Interior's (DOI's) Landscape Conservation Cooperative (LCC) Network served as a national conservation framework from 2010–2017. The LCC program created 22 regional self-directed partnerships covering the entire country, each one designed to understand the threats and develop collaborative strategies to conserve natural and cultural resources important to the partners operating within their geographic scope. The estab-

lishment of the LCC program was not without some controversy, but a 2015 congressionally mandated independent review of its scientific merits reached a positive conclusion. Nevertheless, funding for LCCs was ended in 2017 and most were disbanded. This paper explains the need to increase US federal support for landscape-scale, collaborative conservation, and build back a better, more durable network to meet this century's conservation challenges.

## INTRODUCTION

The Biden administration's adoption of ambitious goals for conservation, environmental justice, and addressing the climate crisis presents a unique opportunity to advance longstanding conservation goals across North America at the landscape scale. It is time to reconnect the country's vast network of conservation partnerships and build back a better national collaborative landscape conservation framework along with the supporting policies and programs. Facilitating collaboration among diverse stakeholders is key to achieving a network of natural and healthy working lands and waters around which we can create an equitable, sustainable, and resilient future. A vibrant and durable national framework for collaborative landscape conservation is needed to meet the challenges of the 21st century, including climate change, environmental justice, economic well-being, and the loss of biodiversity.

This paper explains the need to increase federal support for landscape-scale, collaborative conservation as a cost-effective investment to improve both environmental quality and our quality of life. Toward that end, our organizations recommend 10 policy and funding actions to reconnect and build a better national framework for collaborative conservation and climate adaptation at the landscape scale. Our recommended approach complements many of the objectives shared in President Biden's Executive Order 14008 on the climate crisis—particularly the goal, outlined in Section 216, of conserving at least 30% of our lands and waters by 2030 (part of the global “30x30” initiative).<sup>1</sup> Investing in science integration and facilitating diverse collaboratives across the country will be critical to successfully implementing the administration's goals of improving biodiversity, strengthening Tribal self-governance,<sup>2</sup> and creating a more just and inclusive conservation paradigm.<sup>3</sup>

## BACKGROUND

Landscape-scale conservation (or just “landscape conservation”) is the practice of stakeholders with diverse interests working together across jurisdictions and sectors to conserve natural and cultural resources for the benefit of people and nature.<sup>4</sup> It moves beyond piecemeal conservation of individual parcels and towards a comprehensive, integrated approach that is capable of sustaining healthy, connected ecosystems and communities that transcend political boundaries. This endeavor entails an

inclusive process that enhances coordination while respecting private property to achieve environmental, social, and economic benefits for a wide array of stakeholders.<sup>5</sup> Landscape conservation is bipartisan in nature with origins in multiple administrations. And it is not just about preserving wild places, but also about maintaining managed landscapes for farming, ranching, and forestry, providing opportunities for outdoor recreation, and conserving cultural and historic resources as well as green space in metropolitan settings. Landscape conservation is also about efficiency—about bringing together Tribes; federal, state, and local governments; and private parties to solve conservation challenges that cannot be solved independently.

We know that healthy, connected landscapes are essential—for clean water, healthy ecosystems, cultural heritage, vibrant communities and economies, climate resilience, flood and fire control, outdoor recreation, and local sense of place. And yet our approaches to these critical issues are too often piecemeal, scattered, isolated, and incomplete. Ensuring healthy connected landscapes and seascapes, and establishing a durable national framework for bringing people together to design, create, and sustain them, would position the United States to tackle emerging challenges of biodiversity, climate change, and moving to a more just and equitable conservation paradigm. Indeed, the Biden administration has highlighted the need for the nation to act now to reverse the alarming decline in biodiversity, taking a “whole-of-government approach” to address climate change, increase the participation and decision authorities of the nation's Tribes and communities of color, and work together across boundaries to solve large-scale problems.<sup>6</sup>

Similarly, other countries are adopting collaborative governance approaches to address some of their most vexing conservation challenges related to biodiversity, climate, and local and Indigenous communities. For instance, Australia is using collaborative landscape conservation as a framework for responding to climate change, conserving biodiversity, and working with diverse local communities to implement connectivity conservation.<sup>7</sup> Canada recently recommitted to improving its network of protected and conserved areas and working with Indigenous people to include their cultural and conservation priorities.<sup>8</sup> Nature Canada, one of that country's oldest national nature conservation organizations, recently called for trans-



boundary cooperation to (1) protect and connect ecological corridors, (2) support Indigenous rights and conservation, and (3) advance nature-based climate solutions.<sup>9</sup> Private-sector businesses are also increasingly looking to products of landscape partnerships, such as spatial conservation priorities, as they follow through on their commitments to adopt science-based targets for nature.<sup>10</sup>

### **WHY RECONNECT AND BUILD BACK A BETTER NATIONAL LANDSCAPE CONSERVATION FRAMEWORK?**

Today, many landscape conservation collaboratives are working at different scales across the nation to address local and regional conservation challenges.<sup>11</sup> Reconnecting these collaboratives and building a more durable national framework of support offers the nation the opportunity to align disparate conservation actions and coordinate at larger, more ecologically relevant scales for greater impact. Coordinating landscape conservation efforts and partnerships is the foundation for a comprehensive approach to tackle national challenges of biodiversity conservation, climate change, economic recovery, and creating a more just and inclusive conservation movement.

The US Department of the Interior's (DOI's) Landscape Conservation Cooperative (LCC) Network served as a national conservation framework from 2010–2017. This initiative led to improved conservation outcomes, demonstrating that the “whole” can be much more than the “sum of its parts.” This is particularly true when considering mobilizing the nation to address emerging landscape-scale concerns, working with Congress to sustainably fund this work, and maximizing opportunities to leverage knowledge and resources to promote collaboration at the national, regional, and local scales.

Prior to the establishment of the LCC program in 2010,<sup>12</sup> the federal government supported a variety of disparate efforts and partnerships to further conservation of fish, wildlife, habitats, and cultural resources. Many of these efforts operated at the landscape scale; foundational initiatives such as migratory bird joint ventures, fish habitat partnerships,

national heritage areas, and a variety of transboundary conservation efforts on private lands and forests illustrated the importance of working at large scales.

The LCC Network was the first federal effort to address the challenge of climate change and conservation as a landscape-scale issue of critical importance. The LCC program created 22 regional self-directed partnerships covering the entire country, each one designed to understand the threats and develop collaborative strategies to conserve natural and cultural resources important to the partners operating within their geographic scope.<sup>13</sup> The national framework provided essential funding, strategic support, and communication/networking functions across the many participating organizations.

Funding for the 22 LCCs ranged from \$20–30 million annually, providing support for staff and science projects. The establishment of the LCC program was not without some controversy, however, and in 2015 Congress mandated a review by the National Academy of Sciences (NAS) to assess the scientific merit of the program, whether it filled a unique niche, and its effectiveness. The panel concluded:

The nation needs a landscape approach to conservation. Implementing landscape approaches in the United States is challenging because of the multitude of federal, state, local, and tribal jurisdictions, as well as numerous private landholders and stakeholders. The LCC Network initiated by the Department of the Interior aims to address



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this national need. Many other programs are also striving to address regional conservation challenges. However, only the LCC Network is designed to address this need at a national scale for all natural and cultural resources, and to bridge from research to management.<sup>14</sup>

In 2017, with the transition to the Trump administration, leadership within DOI terminated support for the LCC program, even though the NAS had reached a positive conclusion of the program and Congress continued to appropriate funds for these activities. When DOI discontinued staff and science support for LCCs, most disbanded due to a lack of funding and staff capacity.

Since DOI terminated its direct support to LCCs, the US Fish and Wildlife Service (USFWS) transitioned its landscape conservation focus to work more directly with state fish and wildlife agencies through regional partnerships. A number of the former LCCs, particularly in Alaska, the Pacific Northwest, and California, have reformulated their partnerships to continue landscape conservation efforts in their respective regions.

## ELEMENTS OF A DURABLE NATIONAL FRAMEWORK

### 1. Overarching policy goal

An overarching policy goal is essential for driving change, defining common purpose, and sustaining efforts over the extended periods of time at which our natural resource decisions and systems operate. This goal must be broad enough to represent the diverse set of issues being addressed by large-scale conservation efforts, and specific enough to establish goals, target funding, and measure progress. We recommend the following policy goal: *A connected network of healthy and productive lands and waters that sustain natural and cultural resources to meet the challenges of the 21st century, including climate change, environmental justice, the loss of biodiversity, and sustained economic well-being.*

### 2. Leveraging organizations and bringing new voices to conservation

Collaborative conservation at landscape scales invites and depends on many organizations coming together to develop shared outcomes and align management actions to achieve them. An improved national framework for landscape conservation could advance diversity, equity, and inclusion by engaging the broad suite of entities that care about, benefit from, and are affected by land and water conservation actions.

**Communities of color.** The modern conservation movement in the United States has had many celebrated successes. However, the benefits of these successes have not been equitably distributed, and in many cases under-represented populations continue to suffer from the effects of past and present environmental degradation. It is past time to correct a historic imbalance and recalibrate the land conservation movement as one for all people. Reconnecting and building a better landscape conservation framework can be a means to ensure that Black, Indigenous, and people of color have equitable voices in landscape conservation, and for the many essential services nature provides for all people, in all places.

**Indigenous Peoples.** American Indians and Alaska Natives have tribal sovereignty—the right to govern themselves. They have unique authorities, Traditional/Indigenous Knowledges, and expertise in natural and cultural resource management. In many parts of the country, their communities and ways of life are the most affected by environmental change, forcing Indigenous People to often lead the way in adapting to climate change and creating more resilient communities and landscapes. American Indians, Alaska and Hawaiian Natives, and Canadian First Nations were highly valued partners and co-leaders on many aspects of the LCC program; a better framework can ensure they have equitable opportunities to engage. President Biden has recently committed to strengthening tribal consultation and nation-to-nation relationships.<sup>15</sup>

**Working lands.** Successful landscape conservation depends upon the ability to work across multiple organizations and land ownerships to manage for shared conservation values. Private landowners are a key group of stewards, particularly in states without a large public land base. Their working farms, ranches, and forests are often the last best places for intact, fertile, and open land. Across the US, they can provide interconnected, permeable landscapes where nature and local communities thrive. They are the cornerstones of both human communities and the ecosystems we all depend on. An equitable and durable landscape conservation framework will ensure private lands are respected and contribute in meaningful ways to the network of interconnected lands and waters.





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*Non-governmental organizations (NGOs).* Conservation organizations play several crucial roles in collaborative landscape conservation. They contribute policy and political leadership, private funding, independent science, convening capacity, and expertise in applying conservation programs on the ground. They also serve as communication and action bridges between conservation work and the public. A better landscape conservation framework can and should maximize the participation and leverage some of the diverse resources and flexible financial capacities of conservation organizations at national, regional, and local scales.

*State agencies.* State fish and wildlife agencies are important partners in landscape-scale conservation initiatives. They bring critical scientific expertise, a wealth of knowledge on species at risk and their habitats (through state wildlife action plans), and legal authorities to manage fish and wildlife in their respective states. State agencies also have long recognized the importance of healthy ecosystems as a necessity for sustaining robust populations of fish and wildlife. As such, they recognize that large ecosystems often extend beyond state boundaries,

requiring collaborative partnerships to effectively meet the challenges of conserving landscapes across multiple jurisdictions. State fish and wildlife agencies have decades of experience in collaborative partnerships, including multi-state flyways, joint ventures for bird conservation, and fish habitat partnerships. More recently, some state agencies have come together to identify regional species of greatest conservation need, based on species in state wildlife action plans that are shared by multiple states.

The Association of Fish and Wildlife Agencies (AFWA) adopted a resolution in 2018 on the importance and unique responsibility of wildlife agencies and the value in taking a landscape perspective for conservation. AFWA also produced a report on science and landscape conservation priorities.<sup>16</sup> Stemming from this work, some states (and federal agencies) have established regional conservation collaboratives to address the myriad challenges of sustaining at-risk species at landscape scales. These collaboratives are currently operational in the Northeast and Southeast, with the Midwest in the developmental stage.

While the state wildlife agencies are critical partners in landscape conservation, other state agencies, including forestry agencies, departments of agriculture, and natural resource departments, should also become important contributors to landscape conservation. Clearly, a durable national landscape conservation model must have states as key partners to ensure states' authorities are respected and the science, capacities, and initiatives led by their diverse natural resource agencies are fully integrated into landscape conservation planning.

**Federal agencies.** The comprehensive threat that climate change poses to the nation's lands and waters, and the ways of life they sustain, requires a national response. As noted earlier, this was a central theme in the National Academy of Sciences review of the LCC program, which recognized that it alone is designed to address regional conservation challenges "at a national scale for all natural and cultural resources" and to serve as a "bridge from research to management."

Decisionmakers at local, Tribal, regional, state, and national levels are all working on adaptation and conservation solutions for public and working lands that rightfully suit their specific social and ecological contexts. Federal agencies have the responsibility to support those efforts and find ways to connect them via financial leveraging, information sharing, and new specific capacity that helps weave together an effective response. There must be a delicate approach of top-down support and influence that provides targeted resources and insights, informed and complemented by local and regional perspectives. The federal government is essential for incentivizing collective behavior that promotes conservation and adaptation while at the same time being informed by and accommodating regional differences.

The comprehensive threats faced by America's working and public lands also require that the federal government unify and focus the varied efforts of its agencies on common conservation and adaptation outcomes. This was the aim of the former LCC Network for DOI and its agencies. However, the placement of nearly all the network's coordination staff within the US Fish and Wildlife Service unfortunately allowed other federal agencies to step back from the effort, and complicated relationships with state agencies and others who had negative regulatory relationships with USFWS. The National Climate Task Force

(Section 203 of President Biden's Executive Order on the climate crisis) represents a shared, comprehensive strategy. However, effective implementation will require sustained coordination of agency efforts. This likely also requires new funding, rather than diverting existing limited funds from the myriad obligations currently held by federal natural resource agencies.<sup>17</sup>

### **3. Establishing a strong organizational "backbone" to facilitate coordination**

Creating a national coordinating council would facilitate collaboration, communication, and coordination of landscape conservation activities across all relevant branches of the federal government and equitable engagement of non-federal organizations. This council would support the landscape conservation efforts of the federal agencies and regional collaboratives, assist the network of landscape collaboratives in achieving their goals, broaden the constituency of partners, and help sustain the national landscape conservation framework over time.

### **4. Convening diverse stakeholders to achieve collaborative conservation**

Achieving collaborative conservation at the landscape scale requires that numerous entities have a voice in designing strategies and the opportunity to contribute meaningfully to implementation. With contributors from various jurisdictions and sectors, most landscape-scale solutions aren't driven by regulations. Rather, they require significant investments in convenings, deliberate consultation, and sustained coordination of multiple parties. The former LCC Network accomplished this to varying degrees of success. However, in many regions of the country, important groups like tribes, private landowners, communities of color, and other stakeholders were left out. The perspectives, insights, and voices of such parties are critical components for a connected, national approach to conservation.

For example, a comprehensive effort like 30x30 will inherently have to be collaborative in nature and will require thoughtfully bringing together these perspectives, as well as sincerely engaging a broader diversity of state and federal agencies. The coordination required to make this type of an effort equitable, transparent, and effective is unprecedented in the American story of conservation. It will necessitate new approaches and investments so that diverse parties (federal and state agencies, Tribes/Indigenous



organizations, local communities, communities of color, and conservation organizations) have resources to convene and lead collaborative landscape conservation efforts.

#### **5. Designing conservation strategies based upon shared science, data, and traditional/local knowledge**

Collaboratively developing, implementing, and tracking conservation strategies elucidates potential synergies, improves efficiency, leverages limited resources, and allows partners to collectively achieve overarching goals that cannot be achieved independently. To reach the overarching goal of a connected network of lands and waters, the partnership needs a way to track progress, facilitate action, and be able to depict what that connected network of lands and waters should look like. For example, the Southeast Conservation Adaptation Strategy (SECAS) tracks progress through an annual goal report and facilitates shared conservation action using the Southeast Conservation Blueprint—a living map that connects a network of lands and waters in the southeastern US<sup>18</sup>

A critical part of these conservation strategies is that they build on the knowledge, data, and experience

of the diverse people and communities that make up this country. Engaging communities that have been historically under-represented in conservation, like Black, Indigenous, and people of color, will be critical to the overall success of the strategies.

#### **6. Providing funding and staff support**

Sustained financial investment from the federal government will be critical to ensure the enduring success of collaborative actions that aim to engage diverse stakeholders, such as those described in Section 216 of President Biden's Executive Order 14008 on addressing the climate crisis. The staff coordinating these efforts should be spread across multiple sectors, including states, tribes/Indigenous organizations, non-profits, and universities, allowing for maximum operational flexibility and diverse leadership perspectives.<sup>19</sup> Some partnership models like this exist, including the Climate Adaptation Science Centers that are a mix of university and federal agency staff, and still others bring together both funding and staff from public and private sources to support landscape conservation and climate adaptation. Another example is The Northern Latitudes Partnerships, where three former LCCs in Alaska and



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northwest Canada are coordinated by non-profit staff with a mix of private and public support.<sup>20</sup>

Beyond coordination, there are significant needs for project and implementation funds. National funds like the North American Wetlands Conservation Act have successfully operated for decades as models that bring capacity and action to various sectors.<sup>21</sup> In order to adequately respond to the extent and magnitude of the climate crisis, a new funding source made available to diverse entities for sustained amounts of time (i.e., beyond single-year grants) will be necessary. A new, federally backed fund focused on landscape conservation and climate adaptation would likely attract the co-investment interests of private and corporate philanthropy, which is accelerating its giving in response to the climate crisis.

### RECOMMENDATIONS FOR FEDERAL SUPPORT OF LANDSCAPE CONSERVATION

To achieve the overarching goal of a “*connected network of healthy and productive lands and waters*” the US needs a durable national framework for landscape conservation. The country needs a federal convening entity to create opportunities and provide resources to advance conservation science and collaboration. The following recommendations will allow such an effort to be more effective, garner more public support, and be more durable.

#### Policies

1. Identify an entity within the administration to lead and coordinate federal governmental functions of this initiative. For instance, this authority could be vested in the Council on Environmental Quality (CEQ) or jointly in the secretaries of the Departments of the Interior, Agriculture, and Commerce.<sup>22</sup> This is essential, at least initially, to ensure a whole-of-government approach and avoid unnecessary duplication across or competition between government agencies implementing components for landscape conservation work. Leadership could be coupled with that being established for the 30x30 and climate initiatives.
2. Issue an Executive Order, or other executive action, directing federal agencies to bring together science and people through landscape conservation collaboratives. We recommend building a more durable national framework that reconnects, coordinates, and supports a vibrant network of landscape conservation collaboratives

across North America. This framework presents viable pathways to implement the administration’s priorities on biodiversity conservation, climate change, and sustaining our working farms and forests in a collaborative and inclusive manner. The administration could also direct agencies (e.g., through a joint secretarial order), to seek opportunities to align current authorities and programs to support landscape conservation partnerships and achieve shared outcomes.

3. Over the next two to three years, work with Congress on a strategy to codify a national landscape conservation network. The network should be governed by an inclusive body that promotes coordination among related federal programs and whose work is supported through a specific funding authorization. This action will create needed durability for a national framework. Landscape conservation work depends on long-term relationships, science, and actions across many geographic and political boundaries. A robust program endorsed by Congress will help ensure this work continues and is less vulnerable to changing political environments.
4. Create a National Landscape Conservation Council composed of federal agencies, state agencies, tribes, private land managers, and NGOs. The council should include representatives from a broad mix of backgrounds and ethnicities. It would ensure coordination, communication, and collaboration on landscape conservation policy and projects. Having a coordinating entity would allow for better collaboration, particularly on projects spanning multiple jurisdictions, involving a multitude of management agencies, and affecting a diverse array of stakeholders across nested scales.
5. Integrate landscape conservation and climate adaptation science efforts. Ensure that federal agencies produce science that informs management decisions and is in turn informed by the information and data needs of natural resource managers. The Climate Adaptation and Science Centers in the US Geological Survey (USGS), the Climate Hubs in the US Department of Agriculture (USDA), the Regional Integrated Sciences and Assessments Program and Sea Grant Program in the National Oceanic and Atmospheric Administration (NOAA), and the Science Applications Program in USFWS could maximize their impact through improved coordination and integration.





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### **Necessary funding and resources**

1. Work with Congress and the Executive Branch on joint sustainable funding strategies. The past administration chose not to work with many in Congress who have long supported policies and funding for landscape conservation in a bipartisan manner. We now have the opportunity to create a unified vision of landscape conservation and deliver fiscal resources to ensure its long-term success. We recommend seeking specific legislative funding authorization to support both a durable framework for national landscape conservation, and the financial resources and tools needed to achieve the vision of a connected network of lands and waters. Funding should be coordinated with the priorities and implementation plans for the 30x30 initiative.
2. Provide national funding to support backbone coordination for national and regional collaboratives. National funding is needed to support backbone infrastructure for a network to include existing and new landscape conservation collaboratives that adopt and accept the responsibility and goals of a national vision for landscape conservation. Funding to support a diverse guiding

council as well as coordination staff housed within and across the various sectors engaged in landscape conservation (federal and state agencies, tribes, NGOs, etc.) will be critical for a national response that conserves lands and waters. Particular emphasis should be focused on ensuring that Black, Indigenous, and communities of color are fully represented in funding strategies for the landscape conservation network.

3. Seek new funding, and leverage existing funds, for actions to conserve land and waters. National funding is needed to support priority conservation actions (e.g., protection of key landscapes, restoration of imperiled landscapes and waterways, conservation of working lands and forests, conservation of habitat connectivity). The current federal funding system is inadequate in magnitude, scope, and structure to address the challenges to our lands and waters posed by the climate crisis.<sup>23</sup> An updated review of available direct and “leverageable” fund sources is warranted. Additional innovative financial resources (e.g., low-interest loans, mitigation and offset payments, impact investing tools, multi-year grants, etc.) should be implemented across all



sectors in ways that leverage the strengths and current interests of public, private, and civil society funders. Innovative and diverse funding sources, including private funding, ecosystem service markets (such as forest carbon credit markets), local ballot initiatives, and other funding models are needed to ensure durability and sustainability of collaborative landscape conservation enterprises. These funding sources should be closely connected to the 30x30 initiative and leveraged with other government-based sources (such as the Land and Water Conservation Fund)<sup>24</sup> to maximize the potential conservation impacts across landscapes.

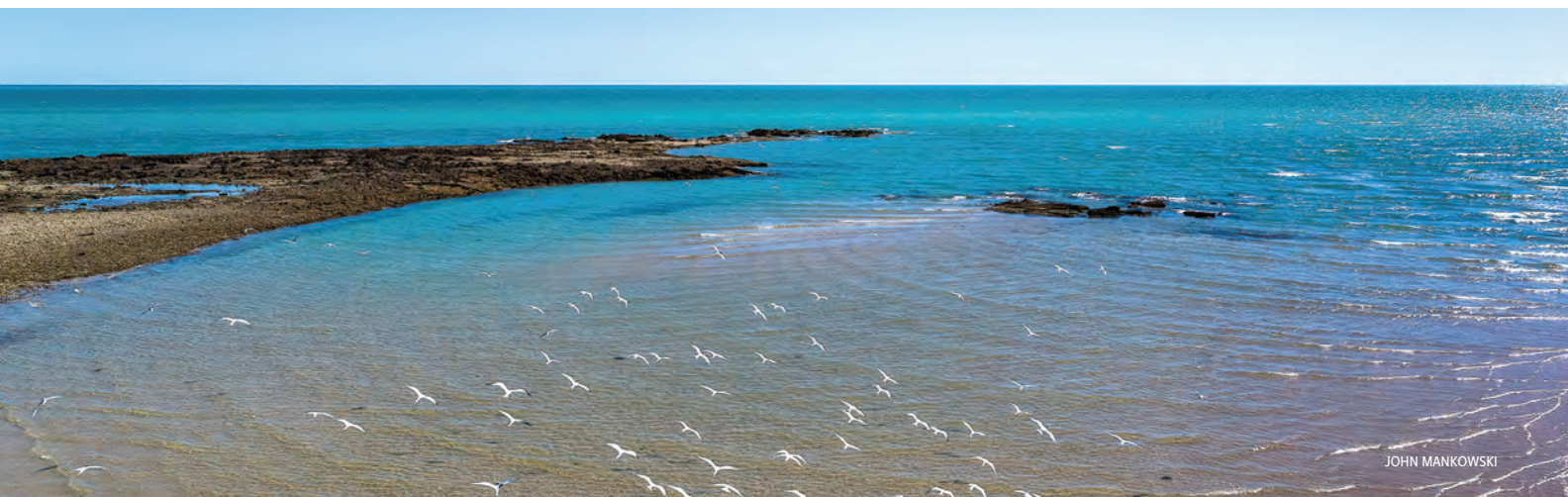
4. Ensure that funding supports the diverse array of organizations working on conserving lands and waters in the face of the climate crisis. The investments needed to participate in this collective work are not shared equally across the entities engaged in, or affected by, landscape conservation actions. Tribes and Indigenous organizations, private landowners, non-profits and often even state agencies lack the funding or staff capacity to participate in, much less co-lead, complex collaborative efforts. Multi-year grants with options for limited non-federal match requirements are needed to support sustained engagement from all sectors, given that tribes, landowners, and NGOs that serve communities of color often lack matching funds.
5. Revitalize investments previously made by the Obama-Biden administration in landscape conservation. An important first step is to assess the remaining LCC regional collaboratives to determine capacity and funding needed to continue or revitalize collaborative conservation across their

regions. We recommend identifying and evaluating similar regional (i.e., multi-state) collaboratives that have filled gaps in extent or function following the loss of the full LCC national network. Many former LCC staff and partners engaged in the original network have pivoted to several new regional cooperative efforts. These and the remaining LCC partnerships represent an opportunity to jumpstart collaborative conservation and adaptation at regional scales in a nationally connected way.

## CONCLUSION

A common element in all of these proposals is the important role of people in landscape conservation. Gone are the days of artificial lines and thinking about nature as separate from people. Today we know that conservation is about sustaining whole landscapes for both communities and nature. This means involving diverse communities in planning for and investing in the future of the places where they live and work. It also means recognizing the economic, ecological, cultural, recreational, health, and other benefits that our natural infrastructure of land and water provide to local communities and citizens across America.

Our natural and cultural landscapes are under escalating pressures from multiple causes, and their irreplaceable benefits are at risk. A long-recognized and vital role of the federal government is supporting governance structures needed to invest in and sustain the landscapes that fueled the growth, prosperity, and independence of this country and continue to sustain us today.



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## ENDNOTES

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  - 21 North American Wetlands Conservation Act, 1989. <https://www.fws.gov/migratorybirds/pdf/grants/nawca-us-standard.pdf>
  - 22 See the Wildland Fire Leadership Council for example of joint leadership by the secretaries of agriculture and interior. <https://www.forestsandrangelands.gov/leadership/>
  - 23 National Council on Science and the Environment, *Our Nation's Wildlife Habitats—Completing an Integrated System for Conserving Their Values and Benefits in a Changing World*, synthesis of research findings and recommendations by the Wildlife Habitat Policy Research Program (Washington, DC: NCSE, 2010). <https://drive.google.com/file/d/1NK2YYM9oG-8ZjI4IdlE3RwkcjjQqennFk/view>
  - 24 The Great American Outdoors Act (PL 116-152), passed in 2020, is a bipartisan law that permanently and fully funds the Land and Water Conservation Fund at \$900 million a year, while also funding a backlog of maintenance needs for national parks and other public lands.





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