

DRAFT

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**To:**

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**From:**

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**Comments to the Office of Science and Technology Policy & U.S. Global Change Research Program**  
[Framing the National Nature Assessment](#) (Docket Number 2022-23593)

**Introduction:**

As professionals focused on speeding up environmental progress, we believe that the National Nature Assessment (NNA) is a historic opportunity to advance the nation's understanding of nature, how it is changing, and the benefits gained or lost as a result. This NNA will establish many of the key practices for organizing and conducting future assessments. To help maximize the usefulness and long-term value of the NNA in understanding and managing changes to nature, we are providing comments and recommendations in three areas:

- **Restoration Decisions and Use Cases:** The NNA should provide information about the condition of natural resources to help prioritize restoration and mitigation efforts.
- **Inclusivity, Accessibility, and Engagement:** Invest in proactive, intentional outreach with consideration for the time and resources needed to engage with government agencies.
- **Collaboration around Data and Decision-Making Tools:** Use the NNA as a platform to curate information, connect related systems, integrate government and third-party data, and spur tool development using leading practices like human-centered design.

**Restoration Decisions and Use Cases**

The National Nature Assessment (NNA) should provide robust data to inform policy makers, agency personnel, and practitioners. To inform a wide range of decision-makers, the NNA should convey information about the condition of natural resources as a metric for prioritizing action and facilitating nature-positive change. For instance, a municipal water management team assessing streams and forests in their respective watersheds can greatly benefit from the NNA if attributes, such as the level of

impairment of streams, are included in relevant datasets. This information can then assist in prioritizing and mitigating these resources.

The NNA should not only quantify natural resources. It should also answer questions pertaining to the status of those resources so that decision makers can prioritize effective action when evaluated. As resources are quantified in the NNA, these resources should ideally have a condition class in their attributes to determine the resource level of impairment or robustness. For example, the USGS National Hydrography Data Set provides information on the location, extent, and order (size) of waterways in the U.S. While the USGS data does not indicate if a particular body of water is impaired or degraded, state-level analyses often account for such attributes. Similarly, the USDA Forest Service utilizes interagency data from the Fire Regime Condition Class (FRCC) System that leverages existing forest stand data and provides additional attribute information to determine the degree of ecological departure from historical, or reference condition, vegetation, fuels, and disturbance regimes. FRCC assessments help guide management objectives and prioritize treatments.

Condition class attributes can potentially extend to other environmental factors, such as biodiversity, and habitat, and/or connectivity to other environments. By expanding to include condition classes, we can address critical questions in conservation, for example: Where in the US is public infrastructure contributing to habitat fragmentation and connectivity challenges for terrestrial and aquatic species? Existing data sets vary by region and state, lack consistency in how they are collected, and have gaps in coverage. To ensure investments in the USDOT's National Culvert Removal, Replacement & Restoration and Wildlife Crossing Pilot Programs are supported by comprehensive, scientifically sound data, we need a more robust database. Though USDOT is required to develop data collection guidance, they lack additional administrative budget resources to do so, and states are only encouraged, not mandated, to follow the guidance. Additionally, the voluntary data collection initiative focuses only on wildlife-vehicle collisions and overlooks other species. A more comprehensive effort is needed to advance wildlife connectivity and promote biodiversity. This national dataset would benefit other agencies and organizations funding wildlife connectivity projects, such as NFWF, USFWS, and NOAA.

Condition class attributes for biodiversity are also crucial for understanding progress on restoration as part of the 30x30 initiative (e.g., what is degraded now and what is later restored?) and to report on an updated Global Reporting Initiative biodiversity metric, which requires baseline condition of species/ecosystem type and annual assessment of condition. Existing datasets, such as [Nature Serve's Map of Biodiversity Importance](#) and species observation data from the [Global Biodiversity Information Facility](#), could be helpful in developing a condition class for biodiversity.

## **Inclusivity, Accessibility, and Engagement Considerations**

Proactive, intentional outreach with consideration for the time and resources needed to engage with government agencies is necessary to collaborate with the communities represented, and affected, by the assessment. Communities should have the opportunity to outline the factors that most affect them and that comes from not only public listening sessions, but also hands-on trainings, speaking events at

conferences, and other opportunities to have meaningful interactions with agency staff that are involved in the assessment.

We recommend that the USGCRP explore a range of options and innovations in community engagement that have been tested recently by other government agencies, such as the US Forest Service (USFS) and Parks Service (NPS). USFS, for example, worked with [Hispanic Access Foundation](#) to convene partners representing a wide variety of marginalized and disinvested communities for an advisory council that provided community input on a range of USFS activities and spending decisions. NPS, for their part, enlisted a consultant to conduct a series of listening sessions on how NPS “can evolve their practice to earn, build upon and sustain the trust of communities who have been historically excluded by science and by NPS,” including stipends for the community members’ time spent in the sessions. This example underscores the invaluable nature of partnering with established and trusted organizations to lead community engagement processes, and can serve as a model for agencies implementing more robust engagement strategies. Ensuring that equitable practices are in place to involve the communities who will be utilizing this assessment or have their communities represented will provide the most relevant feedback and keep the assessment relevant in the long run. As the USGCRP considers options for engagement around the scorecard, considering the [spectrum of engagement](#) may also be helpful.

## **Collaboration around Data and Decision-Making Tools**

The national nature assessment has the potential to be a major step forward in supporting better decisions about conserving, managing, and restoring nature. Although many different types of products can be useful in communicating the findings of the assessment, the most impactful products are those that have the potential to meet specific user decision-making needs. To maximize the number of decision-makers that the assessment can help, we recommend four actions:

1. Centralize and curate information on existing datasets
2. Connect related federal IT systems and tools
3. Facilitate collaborative efforts to share information
4. Use the NNA as a platform for supporting development of user tools

### **Centralize and curate information on existing datasets that can answer specific questions**

Despite efforts to make government datasets more Findable, Accessible, Interoperable, and Reusable ([FAIR](#)), organizations and individuals making decisions about nature still face a daunting challenge to locate the most relevant information. The interagency nature of the NNA and the USGCRP is an important opportunity to curate and centralize information about existing high-quality data across the federal government. The NNA should build on the successful efforts of the USGCRP to curate decision-relevant information in the [Climate Resilience Toolkit](#). To the maximum extent possible in organizing datasets, we recommend that the results should be clustered by topic (e.g. urban forestry)

with the ability to contact the data stewards for each datasets. [NASA's Data Pathfinders](#) website is another example of how this could be implemented. The results should also be filterable so that each user can select those that apply in their context. For example, the ability to sort by region, ecosystem, and use-case could streamline the ability of local communities to get information about particular natural features in their area to apply for federal funding for nature-based solutions. With the emergence of better AI tools to find and summarize large volumes of information and provide recommendations, the NNA could also consider whether these new tools could be leveraged to more effectively direct users of the NNA to the most relevant information. For example, this could enable a decision-maker in a local community to ask an AI chat service, trained on the results of the assessment, a question like “what are the most relevant datasets for using nature to reduce heat islands and why?” This could help provide a better entry point into the NNA for many users that may not know where to start.

### **Connect related federal IT systems and tools**

Through this assessment process, USGCRP agencies should build out the digital infrastructure required to connect related IT systems. Federal agencies have many public facing websites and tools that are used to browse information and facilitate assessments of nature. However, they are sometimes disconnected and incomplete, limiting their usefulness for decision-making. For example, if you wanted to answer the question “where should I restore a wetland?”, you would have to go to three different systems. Currently, there are separate systems that describe 1) wetland locations (U.S. Fish and Wildlife Service’s National Wetland Inventory), 2) permit activity for projects that may impact wetlands (Army Corps - regulatory data management system or ORM), and habitat or stream restoration projects involving wetlands (Army Corps - RIBITS, among other agencies like USDA involved in these types of projects). Connecting them would not only help answer important questions, but it could also help improve the accuracy of these datasets. For example, if the location of issued permits for wetlands restoration were connected to the NWI map of wetland locations, it would help understand where there are inconsistencies and what information is a priority for updates. By using the NNA to connect and further leverage existing government resources about the environment, the assessment could have a lasting impact on both the public and the government’s ability to conduct assessments of nature and make informed decisions.

### **Facilitate collaborative efforts to share information**

As the USGCRP has recognized in this Request for Information, a wealth of information about nature resides not only within government agencies but also in a diverse set of organizations and individuals throughout our nation. We believe that the NNA can serve as an unprecedented opportunity for federal agencies to not only share information (as stated above) but also to serve as a model for how federal agencies can help access, integrate, and absorb environmental information from third-parties outside the government. A few recent examples have helped demonstrate the feasibility and usefulness of leveraging information produced outside of the government:

- **First Street Foundation Data:** The [First Street Foundation's flood and fire risk datasets](#) are available in the Council on Environmental Quality (CEQ) Climate and Economic Justice Screening Tool (CEJST) and the Environmental Protection Agency (EPA) EJScreen platforms to enable a better understanding of climate risk at decision relevant scales for environmental justice initiatives like Justice40.
- **EPA's Fire and Smoke Map:** The [AirNow Fire and Smoke Map](#) provides information on air quality derived from multiple sources, including privately owned and operated lower cost sensors that report real-time information. This information is available alongside information from remote sensing and government-owned and operated monitors to give users a more complete picture of where wildfire smoke may be affecting communities and enable better decisions.

The NNA could build out similar thematic maps, such as one around how wetlands are changing, that incorporate information from data providers outside the government. In selecting external datasets to incorporate, the USGCRP should focus on datasets of known quality that can fill gaps in our current understanding of nature. For example, private companies that provide digital tools for wetland delineation may be able to share nationally consistent data on the location and characteristics of wetlands that are not incorporated into current datasets, such as the National Wetlands Inventory. Individual agencies could sponsor thematic maps open to the submission of third party data to ensure that the capacity to vet incoming data is in place. In this way, the NNA could help establish leading practices around integrating government data with third party data, and pave the way for similar projects at USGCRP agencies in the future.

### **Use the NNA as a platform for supporting development of user tools**

One way to increase the impact of the NNA is to think of it as a platform that government agencies, non-profits, community groups, and the private sector can leverage to address specific needs for decision-relevant information. Although the USGCRP may wish to build some specific user-centered tools, the NNA has relevance to so many potential users that the USGCRP (or even Federal agencies) alone cannot design and develop all the tools that would be required to meet their needs. Accordingly, we recommend that the USGCRP should consider:

- **Making the assessment data available in formats that enable and streamline its use in tools, and create thorough documentation to guide developers.** This is an essential step for increasing the use of the results of the NNA for technology providers that are eager to help develop solutions for specific groups.
- **Acting as a virtual convener for those interested in building tools for specific users.** The federal government has a unique ability to reach and convene groups who may need or be developing related tools related to decisions about nature. One approach could be to facilitate the creation of an Open Source Group incorporating communication tools, such as slack, and monthly meetings to generate interest among developers. The Justice40 Open Source Group that formed around CEJST could serve as an example.

- **Promoting leading practices for tool development using [human-centered design](#).** This could include providing guidance on effective design and development methodologies and on forming effective teams that include users. Although many resources exist detailing these, the NNA has the potential to reach many individuals and groups that may not have the same exposure to these practices. By utilizing this approach and sharing insights from the process, the NNA can amplify the reach and importance of human-centered design in the environmental community.
- **Focus any USGCRP led tool development on those that are least likely to be built by the private sector.** These may include tools that serve under-resourced local governments or community groups. The USGCRP should consider providing grants for these communities or groups to initiate or participate in tool development and provide resources (time and/or funds) to make tools accessible to a broader range of communities that are often left out (e.g. by translating content into other languages). We also recommend that USGCRP give consideration to capacity building in any grants related to the NNA as that will further boost its lasting impact for communities in the most need.

[The Opportunity Project](#) at the Census Bureau can serve as a valuable example for how to implement many of these recommendations. The initiative has guided the creation of over 135 tools directly serving user needs that have greatly enhanced the value of the Census data products for those users. The NNA could follow a similar path to enhance the value of its findings and datasets well beyond the release of the first assessments and help build the community of collaborators invested in the NNA for the longer term.