BIPARTISAN POLICY CENTER

BPC's Response to the Notice of Request for Public Comment on the Executive Order on Tackling the Climate Crisis at Home and Abroad

The Bipartisan Policy Center recently launched the Farm and Forest Carbon Solutions Task Force co-chaired by former Sens. Saxby Chambliss and Heidi Heitkamp. The task force includes leaders across industry, agriculture, and forestry; environmental and conservation nonprofits; trade associations; and former government officials. BPC's work builds from decades of experience supporting voluntary and incentive-driven conservation solutions for America's farm, ranch and forest landowners and is timed to respond to growing interest from Congress, the U.S. Department of Agriculture, and corporations pursuing net-zero emission pledges that include natural climate solutions.

The purpose of the task force is to advance opportunities for farmers, ranchers, and foresters to be a part of the climate solution by:

- Fostering open policy dialogue with recognized leaders from government, agriculture, forestry, conservation, and rural communities;
- Serving as a key resource and helping elevate a bipartisan debate around natural carbon policy solutions; and
- Developing policy recommendations for scaling public and private investments in carbon storage and emissions reductions as well as reducing barriers to voluntary stewardship practices.

The task force will meet four to six times throughout 2021 with a goal to deliver final recommendations in the form of a report in December 2021.

BPC's submittal of responses to this notice of request for public comment is meant to help frame the menu of potential options at the federal level and should not be viewed as recommendations from the task force.

1. Climate-Smart Agriculture and Forestry Questions

A. How should USDA utilize programs, funding and financing capacities, and other authorities, to encourage the voluntary adoption of climate-smart agricultural and forestry practices on working farms, ranches, and forest lands?

> **1. How can USDA leverage *existing* policies and programs to encourage voluntary adoption of agricultural practices that sequester carbon, reduce greenhouse gas emissions, and ensure resiliency to climate change?**

There are Numerous Steps that USDA could take to Utilize Existing Conservation Programs to Encourage Adoption of Practices that Sequester Carbon: USDA Farm Bill conservation programs provide approximately $6 billion in funding annually for American farmers, ranchers, forest owners, and other landowners to undertake a variety of conservation practices. The Secretary of Agriculture has significant discretion in targeting resources towards particular conservation practices, regions, and natural resource challenges. Targeting Farm Bill conservation programs towards natural climate solutions could focus on the following programs:

- *Conservation Reserve Program.* CRP is currently authorized for 25 million acres in fiscal year 2021, rising to 27 million in FY2023. CRP is a powerful engine for carbon sequestration, and opportunities for expanding its contribution to climate mitigation include:

  - Restoring incentives that encourage participation, particularly on productive lands that can sequester significant carbon, so that the program is fully enrolled.
  - Targeting CRP enrollment through "continuous enrollments" to those lands that provide the greatest carbon benefit.
  - Tree planting, especially bottomland hardwoods and longleaf pine in the South.
  - Using CRP to restore prairie potholes and surrounding grasslands in the Great Plains.
- *Environmental Quality Incentive Program.* EQIP already provides incentive payments to farmers, ranchers and forest owners that undertake practices such as conservation tillage, installation of cover crops, nutrient management, manure management, timber stand improvement and others that have significant climate benefits. USDA can prioritize practices that benefit the climate and/or target EQIP payments.
- *Regional Conservation Partnership Program.* RCPP allows locally led conservation partnerships to design projects using EQIP and other Farm Bill programs. Because projects are locally designed and implemented, RCPP could provide an excellent model for collaborative climate mitigation projects on working lands.
- *Forest Legacy Program.* Conserving privately-owned working forest lands is critical to U.S. climate mitigation. Given the new infusion of money provided to FLP through the America's Great Outdoors Act, there is an opportunity for USDA to target lands with high carbon sequestration and retention values through FLP.

In addition to utilizing these programs to enhance carbon sequestration rates on agricultural and forest lands, USDA could consider taking the following steps to bolster participation in those conservation programs:

- Make education of producers about carbon sequestering practices and carbon market opportunities a central part of the educational mission of NRCS, FSA, and the Extension System.
- Develop an app and/or computer program that allows farmers and foresters to estimate their carbon credit generation and revenue potential, based on geographic location, soil type, and practice.
- Expanding technical assistance to focus specifically on practices that sequester carbon.
- Reduce paperwork burden for NRCS program signups.
- Dramatically expand data inputs into the COMET Model so that it can be used to reliably estimate carbon sequestration rates and reduce the costs of intensive soil monitoring and verification.

2. What *new* strategies should USDA explore to encourage voluntary adoption of climate-smart agriculture and forestry practices?

Use the Commodity Credit Corporation to Establish a Carbon Bank that Supports Forest and Soil Carbon Markets. The USDA's Commodity Credit Corporation has broad authority "to stabilize, support, and protect farm income and prices," which includes procuring agricultural commodities and carrying out environmental and conservation program. As such, the CCC could be used to address carbon price uncertainty in forest and soil carbon markets and put liquidity into the carbon market. In particular, the CCC could:

- Operate a reverse auction that purchases certified carbon credits from farmers, ranchers, and forest owners. If Congress authorizes a federal compliance carbon market in the U.S., policymakers could also allow the bank to sell credits into the market and replenish funds in the

bank. The CCC could self-insure carbon credit sales to guarantee their environmental performance.
- Guarantee a floor price for carbon for selected carbon mitigation projects.
- De-risk investments from the private sector into voluntary carbon markets by providing carbon price guarantees
- Provide low-cost financing to carbon projects.

In addition, to address one of the main barriers to voluntary efforts to generate carbon credits, USDA could consider ways to reduce the transaction costs associated with verifying the amount of carbon sequestered. This is particularly a problem for smaller producers who spread the costs of carbon testing/verification and monitoring over few acres, substantially eroding the potential economic benefits of generating credits. Identifying ways to validate carbon sequestration rates in soils and forests easily and inexpensively would encourage farmers and forest owners to explore ways to generate carbon credits and participate in these emerging markets. USDA could address uncertainty in farm scale estimates through a robust system of soil monitoring and verification that helps ensure the quality and integrity of a carbon credit system as a whole. In addition to enhancing the robustness of the COMET model, as described above, USDA could consider remote sensing options, like using satellites to measure changes in forest carbon as a non-intrusive and cost-effective means of validating carbon sequestration rates in forests.

Develop Crop Insurance Products that Reward Producers Who Adopt Climate Smart Practices: The same soil health practices—conservation tillage, cover crops, and others—that capture carbon from the air and store it in soil organic matter also make crops more resilient to drought, flooding, and other extreme weather events. The challenge, however, is how to encourage broad adoption of these practices across tens of millions of acres. USDA provides federally subsidized insurance on some 90% of cropland in the United States with over $100 billion in liability protection for agriculture. There is growing interest, led by the AGree Coalition and others, to create insurance products that reward farmers who implement soil health practices by providing lower insurance premiums. For example, in Iowa, farmers can receive a crop insurance discount for using cover crops. While few insurance products exist and new ones are in development, USDA could speed development of this tool with new resources for research, data analysis, and product development. Doing so would significantly advance adoption of climate smart agricultural practices.

B. How can partners and stakeholders, including State, local and Tribal governments and the private sector, work with USDA in advancing climate-smart agricultural and forestry practices?

USDA Could Invest in Partnerships with States, Universities, Producers, Conservation Groups, and Others to Deliver Programs: Government agencies—the Natural Resources Conservation Service, U.S. Forest Service, DOI agencies and others—cannot deliver financial and technical assistance to agricultural and forestry producers and landowners alone. Moreover, on public, private, and tribal lands some of the greatest conservation successes involve collaborative partnerships among federal and state agencies, landowner groups, conservation groups, universities, and others. From a cost standpoint, delivering financial and technical assistance will be less expensive if natural climate solutions policies leverage these partnerships. NRCS, for example, already has the authority to develop partnerships with outside organizations to deliver Farm Bill conservation programs. Organizations such as Pheasants Forever and the National Wild Turkey Federation work closely with USDA and other agencies to deliver on the ground conservation in concert with private landowners. Federal legislation, such as S. 3894, the

Bipartisan Growing Climate Solutions Act, introduced by Sens. Mike Braun (R-IN) and Debbie Stabenow (D-MI), looks for ways to expand opportunities for private businesses to deliver carbon measurement and verification.

Increase the Number of Cooperative Agreements between USDA and Community and Conservation Organizations: USDA agencies like NRCS and FSA can enter into cooperative agreements with local community and conservation organizations where they may not have the local capacity to conduct outreach themselves. Community organizations act as a liaison between the federal government and local landowners, providing credibility to USDA in communities that may distrust the federal government. For example, organizations that are part of the Sustainable Forestry and Land Retention Network often partner with USDA and state agencies to educate black landowners on their options and increase their participation in conservation planning and programs.

Invest in USDA Programs that Support Community Organizations that Perform Outreach to Socially Disadvantaged Landowners (i.e., the 2501 Program): The USDA's Outreach and Assistance for Socially Disadvantaged Farmers and Ranchers and Veteran Farmers and Ranchers Program (2501 Program) has provided 533 grants totaling more than $138 million since 1994. This program has helped historically underserved farmers and ranchers overcome barriers due to racial or ethnic prejudice.

Invest in supporting infrastructure for climate-smart agriculture and forestry practices: USDA could target and align investments with states and the private sector to support infrastructure investments necessary to facilitate climate-smart agriculture and forestry practices. Targeting broadband deployment in areas with high potential to support technology adoption for precision agriculture and soil health practices and coordinating investments among the Forest Service, land grant universities, and private partners to build the seed cultivation, nursery and related infrastructure for public and private lands reforestation and afforestation will be necessary to scale practice adoption across many regions of the country.

Greater Coordination and Flexibility in Who can Qualify as Technical Assistance Providers: Much of federal technical assistance is provided by NRCS but a downtrend in staffing levels at NRCS has impacted the agency's ability to provide outreach and technical assistance. From 2004 to 2018, NRCS staffing has decreased by 19 percent. Greater coordination between USDA agencies, state and local agencies, and third-party organizations can help optimize the delivery of technical assistance. For example, there have been instances where state foresters have been approved as technical assistance providers for NRCS program implementation of forestry-related practices. However, instances such as this are approved on a case-by-case basis. Greater coordination could make it easier for technical experts outside of NRCS to qualify as technical service providers.

C. How can USDA help support emerging markets for carbon and greenhouse gases where agriculture and forestry can supply carbon benefits?

Develop Protocols for Verifying Carbon Credits that are Highly Credible and Cost-Effective: The most important emerging market for carbon credits is corporations that have made climate pledges like achieving net zero emissions. According to one estimate, this could become a global $50 billion market by 2030. These corporate climate pledges are being driven by Environment, Social and Governance (ESG) investors who are demanding that companies achieve favorable ratings on a range of ESG issues, including climate change, in order to be eligible for investment. The key to empowering producers to participate in these corporate markets will be twofold.

First, protocols for verifying sequestered carbon and certifying credits will need to be sufficiently robust to ensure that potential credit purchasers are confident in the amount, additionality, and permanence of sequestered carbon. Second, the protocols should reduce to the extent practicable, the transaction costs associated with carbon monitoring and verification, which can discourage adoption of carbon sequestering practices and participation in carbon-credit-generating programs.

There are ways to determine carbon sequestration rates that can meet both tests. The Forest Service and NRCS maintain an extensive network of survey plots across the country that provide data on, among other things, the carbon content of agricultural and forest lands. USDA could improve the accuracy, timeliness, and coordination of these data collection programs and where needed develop additional surveys and assessments.

In addition, USDA has worked with outside partners to develop tools like COMET-FARM which can help producers understand the carbon consequences of adopting various climate-smart agricultural and forestry practices. USDA could provide greater support for tools like COMET-FARM and new technologies that improve the accuracy and efficiency of carbon monitoring. A multi-year investment in dramatically expanding data inputs into the COMET model could give confidence to credit buyers that it can accurately determine carbon sequestration rates for a wide variety of geographical locations, soil types, and practices. Successfully doing so could cut down transaction costs considerably by simply using COMET to determine carbon sequestration rates, rather than being forced to engage in costly soil testing. This would encourage more producers, especially smaller producers, to participate in carbon markets. Furthermore, measurements resulting from the enhanced collection and coordination, as described above, should be continuously integrated into existing models like COMET-FARM to help refine these tools.

Investments in carbon measurement tools, technologies, and modeling could help farmers, ranchers, and forest owners understand the carbon consequences of their management decisions. For example, USDA could explore the efficacy and cost-effectiveness of using remote sensing technologies to measure carbon uptake in forests. Moreover, importantly, these tools can help producers and landowners participate in carbon markets.

If USDA decides to move forward with designing a carbon bank, it could consider consulting with corporations that have made net zero GHG emission pledges, as well as ESG fund managers, to determine the standard of proof that they will require to purchase carbon credits, or in the case of fund managers, invest in companies that purchase these credits to meet their climate commitments.

Beyond carefully designing a potential carbon bank and its protocols to meet the expectations of corporate credit buyers, USDA could also educate producers about corporate carbon credit market opportunities, lend producers money to finance any changes in their operations needed to generate carbon credits, and establish relationships with corporate credit purchasers to help replenish the carbon bank of funds.

D. What data, tools, and research are needed for USDA to effectively carry out climate-smart agriculture and forestry strategies?

Update and Modernize Data Systems to Enable Greater Sharing Among Agencies, Enhanced Transparency, and Simplified Public Access to Programs, Measurements, and Tools: Within the USDA, staff need access to relevant information related to staffing, funding, enrolled acreage, and efficacy of conservation programs and associated technical assistance to ensure finite resources are optimized. Improved data sharing would also support enhanced coordination among agencies with overlapping conservation and forest restoration programs. Simplified access to USDA records of physical measurements and meta-datasets is also vital for external researchers, state agencies, and other entities.

Develop an Accessible Central Clearing House of Data across USDA: Despite ongoing and extensive measurement and modeling efforts, land managers and other stakeholders may be unaware or unable to access the tools and information provided by USDA. This can be further compounded by complex government websites that link across programs, databases, and even connect to archived sites. A coordinated initiative to organize data and provide it in a format that is easily understood by land managers and researchers would help alleviate some of these technical barriers. The 10 USDA Regional Climate Hubs are well positioned to work closely with local communities to help them navigate and access existing resources. With additional funding, these Hubs could expand the critical role they already play, developing and delivering USDA tools and data to the producers and forest landowners who need them. Such tools include visualization and mapping tools like GIS that can provide vital information on the value of their land and resources. This is a greater issue in rural areas that lack broadband access, a prerequisite for utilizing online tools and data.

Streamline and Simplify Data Submission from Program Applicants, Accounting for and Communicating Data Privacy Protections: In terms of submitting data, internal coordination, standardization, and organization of programmatic information could help reduce the number of inputs required by program participants. For example, land managers may work alone, or with the help of a technical assistance provider, to navigate the array of existing programs, determine project eligibility, and submit requisite data. Providing the necessary data to participate in these programs can be challenging and time-consuming to collect and submit and engaging with several programs might require participants to enter the same information multiple times across different webpage forms and in various formats. Enhanced transparency across USDA agencies and a modernized data collection system might alleviate participant confusion and administrative burden. This would result in a compound benefit of reducing paperwork overhead on the part of extension agents and technical assistance provides.

Additional, participating in USDA programs can require submitting information about production or land management operations. Landowners and land users may reasonably resist sharing this information with government programs offices or third-party verifiers due to privacy and proprietary concerns, especially for data that describes, or could be used to infer, proprietary or trade information, geographical information, or operational trends. Clear data privacy protections should be implemented across USDA data collection systems and must be effectively communicated to applicants.

Identify Scientific Gaps in Existing Monitoring Networks and In Situ Measurements to Support Model Development: Extensive scientific measurements are needed to advance the quantification of natural

carbon solutions. The National Resources Inventory, for example, has supported collection of data both on the ground and via satellite for more than 35 years. These data are vital for assessing land cover, and land use change, and erosion, among other trends. However, gaps remain in our mechanistic understanding of carbon cycling in rangelands, pastures, subsoil horizons, agroforest ecosystems and flooded rice landscapes. Gaps also exist regarding the impacts of biochar amendment, fertilizer application, grazing methods, and vegetation.[1] In addition to expanding existing measurement networks across natural and working lands, standardized side-by-side comparison studies across different soil types and climate are necessary to assess the effects of various land management practices, including fertilizers and amendments. These data should then be efficiently assimilated into existing models like the COMET-FARM system and coordinated with inventories like the Soil Survey Geographic (SSURGO) Database and the U.S. Forest Service Forest Inventory and Analysis (FIA) database. Increased funding could also be allocated for model development and inventory expansion. Notably, the U.S. government set its nationally determined contribution under the Paris Agreement to reduce net greenhouse gas emissions by 50-52% below 2005 levels in 2030. FIA estimates of U.S. forest carbon sequestration are used in the Inventory of U.S. Greenhouse Gas Emissions and Sinks, which is submitted to the UN Framework Convention on Climate Change as part of the reporting requirements on progress towards this goal. Advances in the FIA would enhance the representativeness of the U.S. Inventory and improve the federal government's ability to accurately measure and track land-based carbon removals and sinks.

E. How can USDA encourage the voluntary adoption of climate-smart agricultural and forestry practices in an efficient way, where the benefits accrue to producers?

Provide No-interest Loans to Farmers and Forest Landowners for Purchase of Equipment and Seed Stock Needed to Generate Carbon Credits. Upfront costs for equipment and seed stock can be a major barrier for farmers and forest landowners interested in participating in carbon markets. Sustainable Agriculture Research and Education found the median cost of seeding cover crops to be $37 per acre.[2] A 2018 survey of forestry practices across the southeastern U.S. found that herbaceous weed control costs an average $41 per acre and prescribed burning costs an average of $32 per acre.[3] USDA could offer no-interest loans to address upfront capital costs.

Guarantee the Purchase of Carbon Credits from Projects that Meet Certain Criteria for Additionality, Permanence. If criteria are set for additionality and permanence, USDA could guarantee the purchase of carbon credits from projects that meet these criteria. USDA procurement could support the nascent market by creating steadier demand and give farmers and foresters the confidence to invest in carbon projects. Establishing and certifying projects meet criteria for additionality and permanence would ensure the credits are high-quality and allow USDA to then sell these credits to the private sector.

Allow Benefit Stacking of Funding for Co-benefits of Climate-Smart Agriculture and Forestry. Climate-smart agricultural and forestry practices often have co-benefits in addition to the carbon sequestration or emissions reduction benefits such as improved water quality and wildlife habitat. Benefit stacking allows farmers, ranchers, and foresters to receive multiple payments for the ecosystem services they

[1] Eve, M., D. Pape, M. Flugge, R. Steele, D. Man, M. Riley-Gilbert, and S. Biggar, (Eds), 2014. Quantifying Greenhouse Gas Fluxes in Agriculture and Forestry: Methods for Entity-Scale Inventory. Technical Bulletin Number 1939. Office of the Chief Economist, U.S. Department of Agriculture, Washington, DC. 606 pages. July 2014.
[2] https://www.sare.org/publications/cover-crop-economics/how-to-get-a-faster-return-from-cover-crops/creating-a-baseline-for-cover-crop-costs-and-returns/
[3] https://www.aces.edu/blog/topics/forestry/costs-trends-of-southern-forestry-practices-2018/

provide through implementing climate-smart practices. The opportunity to receive multiple payment streams could cover landowners' opportunity costs and encourage them to develop higher quality projects.[4]

2. Biofuels, Wood and Other Bioproducts, and Renewable Energy Questions

A. How should USDA utilize programs, funding and financing capacities, and other authorities to encourage greater use of biofuels for transportation, sustainable bioproducts (including wood products), and renewable energy?

Promote Markets for Wood: While it may seem counter-intuitive, bolstering wood markets is an important strategy in promoting forests as a natural climate solution. Development and conversion of privately owned forests is a significant threat to forest carbon stores in the United States. Markets for wood products provide an economic incentive for landowners to maintain and manage forests. Likewise, many landowners are less likely to plant trees if long-term markets for timber are weak. And, in the western United States, markets for wood products can help support the restoration of federal forest lands, in order to reduce the threat of catastrophic fire. Policies that bolster wood products could include:

- Use federal procurement policy to preferentially use wood in construction, particularly mass timber technologies which can be used in tall buildings and other commercial applications. Encourage governors to do the same.
- Increase funding for Wood Innovation Grants in the U.S. Forest Service.
- Invest in research at the Forest Products Lab into new uses of wood, including nanotechnology and carbon life cycle analyses of wood products.
- Work with the forest industry to promote wood use through USDA check-off programs or other venues.

B. How can incorporating climate-smart agriculture and forestry into biofuel and bioproducts feedstock production systems support rural economies and green jobs?

Promotion of Markets for Wood and Bioproducts: Bolstering markets for wood products and bioproducts provides an economic incentive for landowners to maintain and manage forests. Markets can help diversify rural economies by fostering opportunities to develop and advance innovative products, such as cross-laminated timber.

C. How can USDA support adoption and production of other renewable energy technologies in rural America, such as renewable natural gas from livestock, biomass power, solar, and wind?

Finance Methane Digesters in Dairy and Hog Operations: Methane is a powerful greenhouse gas, and livestock methane accounts for about 41% of U.S. agricultural emissions. Livestock methane can be reduced through a variety of approaches including changing livestock feed mixes, manure management, and capping and flaring manure holding structures. Methane digesters, which capture methane and convert it to energy, can reduce greenhouse gas (GHG) emissions by reducing methane and displacing fossil fuels. The National Renewable Energy Lab suggests that the U.S. could capture 1.9 million metric

[4] https://nicholasinstitute.duke.edu/sites/default/files/publications/stacking-ecosystem-services-payments-journal-paper.pdf

tonnes of methane per year from livestock waste by installing anaerobic digesters. USDA's Renewable Energy for America's Program can support the installation of methane digesters in dairy and swine operations, though more could be done to improve the workability of REAP for this sector. USDA could develop a FY2022 budget proposal to bolster the program's success in financing digesters.

3. Addressing Catastrophic Wildfire Questions

A. How should USDA utilize programs, funding and financing capacities, and other authorities to decrease wildfire risk fueled by climate change?

Invest in Restoration of Forests on Public Lands: Fire seasons are now about 80 days longer than three decades ago, and average acreage burned has more than doubled since the 1960s. Further, the Forest Service projects that acreage burned will double again by mid-century. While addressing climate change over the long-term is necessary to slow the loss of forests and grasslands to catastrophic wildfire, restoring forests through scientifically sound thinning of dense stands of trees, and the broader use of prescribed fire to reduce fuels is vital to reducing the severity of fires. Proceeds from timber harvesting on the National Forests and other public lands are too small to finance large scale restoration, and many forests in need of restoration have limited supplies of commercially viable timber. While the forest industry must play an important role in restoration, forest management of the National Forests and other public lands will require public investments.

Unfortunately, the Forest Service spends more than half of its budget annually on firefighting. In 2018, Congress passed a "fire funding fix" which allows the agency to draw on emergency funds when it exceeds its firefighting resources. That "fix" provides significant flexibility for the agency to redeploy resources that would have otherwise gone to firefighting. USDA should take advantage of that flexibility, however significant new investments will need to be made dramatically increase the pace and scale of restoration of the National Forests and neighboring state, tribal, and private lands. In addition, forest and grassland restoration and increased use of prescribed fire on Bureau of Land Management and other DOI lands will also yield significant benefits. Key funding opportunities include scaling the Forest Service's Hazardous Fuels budget along with DOI's Fuels Management Program, expanding the Collaborative Forest Landscape Restoration Program and Joint Chiefs' Landscape Restoration Initiative, and the use of the Forest Service's State and Private forestry programs to align programs of work with state foresters.

Complementary investments to develop new markets for low value forest residuals and biomass should be pursued, with an understanding that commercialization of these markets could help reduce the costs of treatments over time. Federal procurement strategies and other incentives to draw material from priority hazardous fuels areas may be needed to avoid scenarios where these markets source materials from manufacturing or other low-cost sources. USDA's capacity to support research, development and commercialization of these technologies is not well coordinated. Investments from NIFA to land grant universities, from the Forest Service through the Forest Products Laboratory and its research and development arm lack coordination and shared objectives. Funding from the Forest Service's Wood Innovations Grants Program plays an integral role in the pre-commercialization state of investment, offering planning support and applied research. Pathways to financing projects within USDA's rural development portfolio have proven difficult to navigate as the programs struggle to finance and assess novel businesses and technologies.

B. How can the various USDA agencies work more cohesively across programs to advance climate-smart forestry practices and reduce the risk of wildfire on all lands?

The Joint Chief's Landscape Restoration Partnership has demonstrated the value of aligning NRCS' EQIP funding for fuels and forestry management on private lands, with funding from the Forest Service for shared work on national forest system lands. While a significant contributor to wildfire resilience, the program serves other forest restoration and management objectives across landownerships outside of fire. This interagency model should be expanded and targeted to high priority at risk areas and should look to opportunities to align state and private resources, and funding from other federal agencies including the Interior Bureaus, the Department of Defense, and the work with tribal nations supported through the Bureau of Indian Affairs. Forest Service and NRCS can provide leadership with a clear set of priorities and funding that help build the investment case for states, other federal agencies and private partners. As noted in response to the prior question, USDA should also take the lead in better aligning its research, development, and commercialization efforts within the Forest Service and across USDA agencies, including the National Institute of Food and Agriculture, Rural Business-Cooperative Service, and others.

C. What additional data, tools and research are needed for USDA to effectively reduce wildfire risk and manage Federal lands for carbon?

Forest Service should use recent fire-scenario modeling to identify priority fire-sheds and investment needs across ownership boundaries aimed at addressing catastrophic wildfire risk to communities. This modeling should further estimate the landownership and approximate costs of treatments within priority areas to inform investment planning, coordination across USDA and subsequent budget requests and performance criteria. Research and development should model the co-benefits of these investments identifying contributions that enhanced resilience for communities could offer for air and water quality, carbon retention, and wildlife habitat in addition to community protection and avoided wildfire suppression and emergency response costs.

D. What role should partners and stakeholders play, including State, local and Tribal governments, related to addressing wildfires?

The interagency wildland firefighting model is very effective at coordination and emergency response functions in a suppression context across federal, state, local and tribal nation partners. The challenges of planning for, training, responding, and recovering to wildfires have become a year-round challenge for this interagency model. Efforts should be made to use this same approach to ensure a seamless, and urgent response to wildfire resilience investment needs. USDA should use similar strategies for interagency planning and response and should consider whether shifts to full-time positions within wildland firefighting afford opportunities to expand the workforce necessary to execute fuel and prescribed fire treatments. USDA should identify programs and resources that specifically target opportunities to partner with tribal nations on forest restoration efforts and build from traditional knowledge in the use of prescribed fire.

USDA and partners could play a more significant role in financing needed investments in wildfire resilience. Sustained, multi-year investments are needed to address risks to communities and protect forest provision of critical services such as clean air and water and carbon sequestration. Novel approaches relying upon private capital and pay-for-performance structures should continue to be

explored and piloted through support for the Forest Service's national partnerships office. Other strategies should be explored within existing USDA authorities to support the need for predictable, multi-year investments in wildfire resilience that are often difficult within the context of appropriations cycles.

4. Environmental Justice and Disadvantaged Communities Questions

A. How can USDA ensure that programs, funding and financing capacities, and other authorities used to advance climate-smart agriculture and forestry practices are available to all landowners, producers, and communities?

Provide Special Assistance to Beginning and Minority Landowners and Tribes: Certain groups deserve special attention when designing outreach strategies for natural climate solutions policies. Minority and tribal producers have a long history of being excluded from USDA programs, and beginning farmers often don't have the time or experience to access conservation and other programs. As a result, USDA, DOI, and other agencies implementing programs to promote adoption of climate smart agriculture and forestry could devote staff and resources to ensure these producers can take advantage of new natural climate solutions programs.

Invest in USDA Programs that Support Community Organizations that Perform Outreach to Socially Disadvantaged Landowners (i.e., the 2501 program): The USDA's Outreach and Assistance for Socially Disadvantaged Farmers and Ranchers and Veteran Farmers and Ranchers Program (2501 Program) has provided 533 grants totaling more than $138 million since 1994. This program has helped historically underserved farmers and ranchers overcome barriers due to racial or ethnic prejudice.

Invest in Urban and Community Forestry: Low-income and communities of color are disproportionately affected by the urban heat island effect, air pollution, and higher energy burdens. Shade and reduced wind speeds provided by urban forests reduces demands for summer air conditioning and winter heating, respectively. The decreases energy burdens while also reducing emissions from power generation. In this way, urban forestry can help mitigate climate change, pollution, and environmental justice challenges. The U.S. Forest Service's Urban and Community Forest Program works with state partners to deliver information, tools, and grants to those seeking to implement urban forestry.[5]

Revise Application Requirements for Small Landowners and African American, Tribal, and other Historically Underserved Landowners: Many small landowners may be unable to afford the legal services and grant writing assistance necessary for participating in programs, especially those around easements. This is a greater challenge for African American landowners of Heirs Property that may need legal services to be recognized as the property owner before even qualifying for conservation programs through USDA. Tribal landowners and land users often have to go through an intertribal process before being approved to participate in conservation programs which can cause them to miss application deadlines. USDA could take greater consideration when designing application requirements to ensure small landowners and historically underserved landowners can access programs.

Expand Broadband Service to Rural and Underserved Communities: Over 24 million Americans do not have access to fixed broadband service at threshold speeds, 80% of which live in rural and tribal

[5] Urban Forests and Climate Change, USFS. https://www.fs.usda.gov/ccrc/topics/urban-forests

communities.[6] Many USDA applications are online and without broadband, rural and tribal land users may be unable to access the applications. Moreover, rural broadband is necessary for the utilization of precision agriculture and precision forestry that help farmers, ranchers, and foresters implement climate-smart practices. Greater investment in USDA Rural Utilities Service Telecommunication Programs could facilitate broadband deployment in underserved, rural areas.

B. How can USDA provide technical assistance, outreach, and other assistance necessary to ensure that all producers, landowners, and communities can participate in USDA programs, funding, and other authorities related to climate-smart agriculture and forestry practices?

Invest in Partnerships with States, Universities, Producers, Conservation Groups, and Others to Deliver Programs: Government agencies—the Natural Resources Conservation Service, U.S. Forest Service, DOI agencies and others—cannot deliver financial and technical assistance to agricultural and forestry producers and landowners alone. Moreover, on public, private, and tribal lands some of the greatest conservation successes involve collaborative partnerships among federal and state agencies, landowner groups, conservation groups, universities, and others. From a cost standpoint, delivering financial and technical assistance will be less expensive if natural climate solutions policies leverage these partnerships. NRCS, for example, already has the authority to develop partnerships with outside organizations to deliver Farm Bill conservation programs. Organizations such as Pheasants Forever and the National Wild Turkey Federation work closely with USDA and other agencies to deliver on the ground conservation in concert with private landowners. Federal legislation, such as S. 3894, the Bipartisan Growing Climate Solutions Act, introduced by Sens. Mike Braun (R-IN) and Debbie Stabenow (D-MI), looks for ways to expand opportunities for private businesses to deliver carbon measurement and verification.

Increase the Number of Cooperative Agreements between USDA and Community and Conservation Organizations: Cooperative agreements between USDA and community and conservation organizations are needed in areas where USDA does not have the staff or resources to conduct outreach and provide technical assistance. Cooperative agreements are also beneficial for improving outreach to historically underserved groups through intermediaries that have better relationships with, and are often trusted members of, these communities.

Invest in Extension Programs that Serve Tribal Communities, African American Communities, and other Historically Underserved Groups: The National Institute of Food and Agriculture distributes funds to land grant universities that provide extension services, some of which focus on providing services to historically underserved communities. The 1890 Institutions are historically black colleges and universities, and the 1994 Institutions consist of tribal colleges and universities. The Federally-Recognized Tribes Extension Program also provides education and research-based knowledge on agriculture and natural resource management to tribes.

Invest in USDA programs that support community organizations that perform outreach to socially disadvantaged landowners (i.e., the 2501 program): The USDA's Outreach and Assistance for Socially Disadvantaged Farmers and Ranchers and Veteran Farmers and Ranchers Program (2501 Program) has

6 https://www.usda.gov/sites/default/files/documents/American%20Broadband%20Initiative%20Milestones%20Report_Feb_2019.pdf

provided 533 grants totaling more than $138 million since 1994. This program has helped historically underserved farmers and ranchers overcome barriers due to racial or ethnic prejudice.

C. How can USDA ensure that programs, funding and financing capabilities, and other authorities related to climate-smart agriculture and forestry practices are implemented equitably?

Enhance Transparency of Project and Grant Metadata: Increasing project and grant transparency, including relevant demographical and economic information, can help ensure funding is implemented equitably. However, this must be done in a way that preserves applicant privacy.

Incorporate Aspects of Historical Discrimination, Injustice, and Pollution into Grant Ranking Systems: Prioritizing communities and individuals that have face historical discrimination, injustice, and pollution is important in ensuring that these groups and individuals have equitable access to funding and resources to implement climate-smart practices.

Prioritize Technical Assistance Staff in Historically Underserved Areas: Historically underserved communities and areas have lacked access to USDA funding and technical assistance to implement conservation and climate-smart practices. Prioritizing technical assistance staff, particularly NRCS and FSA staff, could help address the historic discrimination and injustice and ensure these land users have access to the knowledge and tools needed to adopt climate-smart agriculture and forestry.

Early Engagement with Existing Networks and Trusted Community Groups: Engagement and outreach to key stakeholders and trusted community groups early in program development and implementation to build relationships and ensure local knowledge and values are reflected in outcomes.