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National Advocacy Center
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April 29, 2021

Secretary Tom Vilsack
U.S. Department of Agriculture
1400 Independence Avenue, SW
Washington, DC 20250

Submitted electronically via Federal eRulemaking Portal

Re: Comments on USDA's Climate Strategy (Docket Number: USDA–2021–0003)

Dear Secretary Vilsack:

The National Wildlife Federation thanks USDA for the opportunity to comment on USDA's Climate Strategy. Climate change is the most severe threat facing wildlife today and will have profound effects on farmers, ranchers, forest owners, and communities across the country. Farmers, ranchers and forest owners can play a leading role in preparing for and mitigating climate change while supporting wildlife and protecting clean water, all while building more resilient operations, rural communities and landscapes.

The National Wildlife Federation (NWF) is America's largest conservation advocacy organization, representing over six million members, supporters, and affiliates across the country. NWF, along with our affiliates and supporters, has been a strong proponent of Farm Bill conservation programs and of action on climate change.

The following, guiding principles offer National Wildlife Federation's vision for how to create a climate-smart agriculture policy that protects and enhances soil, water, and wildlife habitat:

1. **Don't compromise biodiversity.** In addressing climate change, strategies to remove carbon from the atmosphere must take into account not just mitigation potential, but also impacts on biodiversity. Significant trade-offs can exist between carbon and biodiversity. For example, growing trees in a grassland ecosystem or planting fast-growing invasive species can maximize carbon sequestration but cause negative impacts to grassland birds, pollinators, and other native wildlife species. Strategies should optimize carbon sequestration, while also protecting wildlife and biodiversity.

2. Avoid the conversion of natural ecosystems such as grasslands, forests and wetlands, which sequester carbon and have high biodiversity value. Converting natural areas like native prairie, forests and shallow wetlands to intensive crop production reverses decades, centuries, or even millennia of carbon accumulation and storage in the soil. This massive release of carbon into the atmosphere is particularly problematic in the short timeframe available to avoid the worst climate outcomes.

3. Increase and make the most out of limited funding. A significant increase in funding is necessary to help scale up conservation practices. However, even with a significant increase in funding for conservation practices, resources will still be limited. To make the most out of limited funding, money should be targeted to:

- The most effective practices and processes that offer the biggest bang for the buck.
- Practices with multiple natural resource benefits, in order to maximize co-benefits to water, wildlife, air quality, farm resilience, soil health, and biodiversity.
- Practices with high carbon benefits but low return to farmers and ranchers. Practices such as buffer strips and edge of field practices provide significant carbon benefits and wildlife and water co-benefits but don't help improve yield or reduce inputs for farmers – so we can't expect farmers to adopt these practices on their own.
- Practices that simultaneously promote sequestration and resilience.

4. Provide for improved outreach, technical assistance and transitional economic assistance, but not indefinite funding, for adoption of practices that can provide net benefits to farmers and ranchers (e.g. cover crops, rotational grazing) in the short- to medium-term. Some greenhouse gas (GHG)-beneficial practices, such as cover cropping, rotational grazing and no till planting can yield net benefits to producers within a few years. In such cases, paying indefinitely for such practices is not the best use of limited funding. To accelerate adoption, transitional payments for a couple of years, and/or risk management protection to increase producer willingness to try something new, may help accelerate adoption. Additionally, culturally appropriate outreach and technical assistance that is targeted at assisting producers in meeting their production needs and realizing the benefits the practices provide can help encourage adoption of the practice and build the motivation to maintain the practice long term.

5. Reward high performers and early adopters, but pay for adoption of new practices and additionality. Providing benefits only to new adopters of GHG-beneficial practices fails to reward early adopters and the GHG benefits they have provided and can lead to practice reversal in order to establish eligibility for payments. Yet paying for practices that would have been implemented anyway does not result in net benefits. A middle ground is to allow early adopters of GHG-beneficial practices bonuses or enhanced payments and/or priority access to programs that reward adoption of additional practices.

6. **Prioritize socially disadvantaged, veteran, and beginning farmers and ranchers.** These are the producers least likely to have the access to the capital and information that are required to implement many practices for the first time. They may also represent some of the farmers most ready or willing to adopt these practices.

7. **Focus on long term, more permanent conservation strategies to ensure long term benefits.** Examples include long-term or permanent easements and putting mechanisms in place to ensure against reversibility.

8. **Ensure the predicted GHG benefits of practices are based on best available science, but allow for some degree of uncertainty** in instances in which measurement is prohibitively expensive or resource intensive (i.e., avoid need for field level verification). The difficulty in measuring the exact GHG benefits for some practices, such as cover cropping (can depend on soil type, weather, crop planted before or after, type of cover crop, etc.) can mean that some practices become prohibitively expensive and/or impractical to monitor if a high degree of accuracy is required. An alternative is to use the best available science to conservatively predict the GHG benefits of a practice in a given region. Periodic sampling of results can be used to fine tune predicted GHG benefits and practice requirements.

9. **Provide significantly more technical assistance, outreach, education, and conservation planning.** Outreach efforts should expand on current technical assistance to address social and cultural components of climate smart agriculture to increase voluntary adoption and ensure lasting adoption of sustainable practices.

10. **Invest heavily in research and development,** particularly around new and innovative crops and practices. Research efforts should include both traditional institutions (USDA agencies, land grant universities) and innovative arrangements (citizen science, data sharing platforms) to maximize applicability across field, farm, and landscape contexts.

We thank the agency for the opportunity to provide the following recommendations in response to the questions posed in the Federal Register notice:

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?

First and foremost, there is an enormous need for further investment in conservation programs, and demand for Farm Bill conservation programs routinely outpaces funding

available. Every year, demand for conservation on 13.8 million acres goes unmet because of inadequate funding. Additionally, our current programs meet only a fraction of the need for voluntary conservation on the landscape. Doubling the size of the Farm Bill conservation title funding through legislative action would be one of the most direct ways to scale up climate-smart agriculture and forestry practices on a landscape level. Additionally, increasing funding for Conservation Technical Assistance will allow for more "boots on the ground" to better deliver conservation programs to landowners. Increasing NRCS staffing and bolstering technical support capacity can create more positive experiences for producers, increase conservation outreach to broader producer constituencies, and drive greater adoption of conservation practices. USDA needs a significantly increased investment in technical assistance funding. We urge USDA to express support to Congress around the request to double Conservation Title funding and ramp up conservation technical assistance in order to support achieving the goals identified in the Climate E.O.

USDA should issue a department-wide directive to all agencies, requiring them to conduct a review of each program, including but not limited to conservation programs, on how they can do more to address climate change. This should include ways to remove barriers from and drive greater adoption of climate smart agriculture and forestry practices, as well as finding new ways to encourage carbon sequestration or avoidance of greenhouse gas emissions, while maintaining co-benefits. Each agency should create a plan of action and set measurable one-year and five-year goals for how much their plan will contribute to increased uptake of climate-smart ag and forestry practices. These plans should be reviewed and approved at the Secretarial level and agencies should be held accountable for annual reporting on progress towards their goals.

The Conservation Reserve Program (CRP) offers one of the best ways to immediately sequester carbon while creating habitat for wildlife and soil and water benefits. We are currently four million acres below the enrollment cap and millions more acres are set to expire in the next few years. We thank USDA for their recent changes to the CRP program signup that we hope will drive enrollment up, and encourage continued focus on the program to help make it as effective as possible.

There are many ways that Farm Bill conservation programs can be tweaked and better targeted to achieve greater benefits for carbon sequestration as well as co-benefits for wildlife habitat, water quality, soil health, and resilience. A few examples include: prioritizing agricultural conservation easements with robust climate goals in their conservation plans, creating a climate-smart agriculture bundle within the Conservation Stewardship Program, adjusting program rankings to better incentivize climate-smart agriculture practices, particularly those with co-benefits for water and wildlife, better incentivizing the use of native plants across all conservation practices, and ensuring that livestock funding within the Environmental Quality Incentives Program (EQIP) increasingly goes towards grazing practices rather than concentrated animal feedlots. Additionally, it's important that there are basic sideboards added to ensure that conservation funding is not going to practices that may lead

to negative impacts. For instance, conservation funding should not be going to practices that increase GHG emissions

There are also a number of ways that the crop insurance title can and should be tweaked to drive higher rates of adoption of conservation practices that sequester carbon while reducing risk. Right now, there are many ways in which the existing crop insurance structure and rules inhibit farmers who want to implement new conservation practices, as well as many missed opportunities for rewarding farmers who do the right thing for conservation and climate. There are also opportunities to leverage the generous subsidies provided under the program to incentivize better climate performance while decreasing farm-scale risk through improved management. Currently, the crop insurance program fails to recognize the increased resilience and performance – and thus risk reduction benefits – that soil health practices yield in the context of a changing climate. Instead, new practices are treated as if they inherently increase risk of crop failure. This leads to increased costs to taxpayers for subsidizing the program as well as forgone benefits to soil, water and climate.

The following crop insurance tweaks can help to drive greater adoption of climate-smart agriculture practices:

- Incentivize climate-smart agriculture practices through crop insurance: Offer premium discounts for practices that sequester carbon, and particularly for practices that also reduce risk (for example, practices like cover crops can help to reduce the chance of crop failure in extreme weather events because they enable the soil to hold more water). Additionally, we recommend using crop insurance to incentivize diverse cropping rotations, which are more effective at building soil carbon than single-crop monocultures, through premium discounts, additional crop insurance products, favorable payment rates, or other means. Diversifying cropping systems can also reduce risk by helping to build soil health and break weed and pest cycles.
- Update prevented planting insurance to better encourage planting of cover crops: We recommend both removing barriers and providing financial support to farmers for planting cover crops when extreme weather prevents regular crop production. This can be achieved through greater flexibility, greater incentives, or by requiring farmers to substitute a yield of 60 percent of county T-Yield for their Average Production History (APH) when they choose not to plan a cover crop (if they are able to), but allow those farmers who plant a cover crop to continue to exclude the year from their APH.
- Incentivize the transition of the most marginal, low yielding areas from row crop production to perennial land cover, including grasses, wetlands or trees, as ecologically appropriate, through crop insurance. These areas are typically the most prone to erosion and returning them to grass or other habitat could sequester significant amounts of carbon while increasing resiliency. Adjusting the APH could be one way to incentivize the removal of these lands. Another way to do it is through reducing premium subsidies on land capability classes designated as unsuitable for crops, with the exception of pasture, forage, and range land.

- Prevent conversion of native grasslands to croplands through a nationwide Sodsaver provision, which protects native prairies by reducing federal premium subsidies for crop insurance on land where native sod has been plowed for row crop planting. Sodsaver currently only applies in six states; it should be expanded to be made nationwide. We urge USDA to support nationwide Sodsaver during the 2023 Farm Bill discussions.
- Create a supplemental risk management tool for farmers who pilot or transition to GHG-beneficial practices to ensure that deployment of such practices does not result in economic losses to producers that are not eligible for traditional crop insurance. This supplemental risk management tool will give producers confidence that, in implementing the new practices, they will not suffer economic impact for any reductions in yield or failures that occur despite due diligence. All practices must be implemented according to NRCS recommendations and have a high likelihood of decreasing net GHG emissions or increasing carbon sequestration.

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

New programs: We are interested in the idea of creating a carbon bank for Commodity Credit Corporation (CCC) funds; however, we urge USDA to ensure that a carbon bank is crafted in a way that: draws down carbon instead of offsetting carbon emissions elsewhere; incentivizes ecologically-appropriate carbon sequestering practices; and does not disadvantage smaller farms and ranches.

We'd also like to see bold new investment in working grasslands through a North American Grassland Conservation Act, modeled after the North American Wetland Conservation Act, and hope that USDA will support this concept as it begins to be discussed among legislators. Grass-based pasture systems, in which producers use ecologically-appropriate practices to produce livestock, have the potential to provide climate and wildlife benefits while building more resilient and productive operations.[1]

Other new climate-smart programs and initiatives that we'd like to see include a new climate-smart agriculture certification program, modeled after the National Organic Program, and a new Diversified Cropping System Initiative across all USDA departments. Diversified cropping rotations can help improve soil health and increase carbon sequestration while reducing the need for synthetic fertilizer, herbicide, and pesticide inputs and increasing the environmental and economic resilience of farms and ranches. However, significant barriers prevent wider adoption of these practices. USDA should create a new department-wide crop diversification initiative, with an emphasis on re-establishing diversification of cropping systems and helping to create new markets for small grains, legumes, and perennial crops. A

[1] Rowntree, J.E., Stanley, P.L., Maciel, I.C.F., Throbecke, M., Rosenzweig, S.T., Hancock, D.W., Guzman, A., and Rave, M.R. 2020. Ecosystem impacts and productive capacity of a multi-species pastured livestock system. Frontiers in Sustainable Food Systems 4: Article 544984.

department-wide diversification initiative could include research, conservation, credit, rural development, and other agencies.

New outreach strategies: There are some climate-smart farming practices, such as cover crops, reduced and zero tillage, and rotational grazing, that can economically and agronomically benefit producers in the short term. While producers may need assistance in transitioning to such practices, on-going payment should not be necessary, especially after the establishment phase in the first few years of adoption. In addition to a significantly increased focus and investment in Conservation Technical Assistance, there are significant opportunities to increase uptake of climate smart practices through improved outreach.

A recent analysis of the uptake of one climate-smart practice found cover crop "hotspots," i.e., counties or regions where adoption rates are higher than neighboring areas[2]. These findings highlight the importance of social conditions for uptake of this practice. These hotspot areas have several conditions that neighboring areas do not: early uptake by a small group of innovative producers; strong networks among these producers to share management techniques and provide support; the presence of conservation "entrepreneurs," either innovative farmers or outreach professionals who proactively lead local efforts to promote cover crops; and active coordination and collaboration between resource agencies and local farmer networks. These social conditions indicate the importance of supporting innovative outreach efforts that can build on the early successes of innovative practice adopters and leverage local networks to expand practice uptake. Network-based approaches leverage and build on existing trusted relationships between producers, conservation agencies, and other stakeholders, including private sector advisors. USDA and local conservation partners can play a crucial role in supporting and facilitating these networks through increased outreach capacity, knowledge sharing, and networking support tools. Increasing capacity for local professional and social networks will enhance the existing technical support tools developed by USDA agencies and conservation partners (such as the regional Cover Crop Councils).

Current conservation outreach to farmers and other agricultural stakeholders often focuses on conveying technical information and relying on existing conservation programs. This approach is effective at supporting producers who are already interested in practices, but largely fails to expand beyond this pool of early adopters. To increase uptake of key climate-smart agricultural practices, outreach efforts must focus instead on reaching new audiences. There are opportunities to improve outreach efforts by tying messaging approaches to the needs, concerns, and motives of this "middle majority" of farmers who are not reached by current efforts. Conservation program staff engaged in outreach require more support and training in behavioral and social sciences, access to new tools that support innovation in

[2] Popovici, R., Bernard, M., Prokopy, L.S. (2020). The social factors influencing cover crop adoption in the Midwest: A controlled comparison. West Lafayette: Purdue University.

outreach methods, communications training, greater networking around effective engagement strategies, and more support for evaluation methods that demonstrate impact.

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?

Expanding conservation adoption will require greater engagement in outreach and promotion efforts by a wider range of stakeholders. Examples of successful approaches include farmer innovator networks (such as Practical Farmers of Iowa), farmer-led watershed groups (such as those in Wisconsin), and projects involving agricultural retail as active participants (for example, Regional Conservation Partnership Projects in the Saginaw Bay of Michigan and Big Pine Watershed Partnership in Indiana, among others). Greater investment should be made in supporting these approaches that tap into and build upon existing networks of trusted advisors. These efforts might include coordination and support between farmer- or grazer-led organizations, agricultural retail, or local communities seeking to improve local water quality or expand wildlife habitat.

Additionally, there is a need to increase coordination of technical and economic assistance between USDA agencies (ARS, NRCS, ERS, etc.) and between the Climate Hubs and federal, state, and local ag conservation agencies, as well as with state technical committees.

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

We support USDA playing a role in helping farmers, ranchers, and foresters to participate in voluntary carbon markets. In these markets, greenhouse gas reductions must be verifiable, additional, transparent, ecologically sound, and result in permanent GHG reductions in order to ensure private sector and public confidence in the credits. We also encourage USDA to focus their efforts on assisting smaller and historically underserved landowners in accessing such programs. Participation in carbon markets can require a high degree of sophistication and access to technical services to help with measurement, planning, reporting, etc. To ensure small and resource constrained landowners have equal opportunity to participate in and benefit from carbon and other ecosystem markets and to ensure such markets don't drive up land costs and increase land consolidation, it will be important for federal support for ecosystem markets to be focused on enabling participation of these landowners.

To that end, USDA should consider utilizing CCC funds to advance a pilot program to purchase carbon credits from small and historically disadvantaged farmers, ranchers and forest owners and others that have difficulty accessing carbon markets, using the knowledge gained from this program to help develop the tools needed to enable these landowners to access voluntary carbon markets.

As USDA considers new programs around carbon sequestration, whether market based, CCC-based, or otherwise, it will be absolutely critical to have accurate and reliable data. In order to understand the carbon fluxes and stocks of different managed and unmanaged ecosystems, the effects of various agricultural or forestry practices, and the net emissions associated with different fates for farm and forest materials, improvements in data availability and accessibility are needed. USDA should utilize its research and data, sharing it in aggregate form or with privacy agreements, with academic institutions working to help advance the science of measuring carbon uptake, and determining additionality, permanence and leakage of various conservation practices.

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

Data Collection and sharing: There is an enormous need for improved data collection, sharing, and innovation, particularly on the impacts of conservation practices on soil health, crop yield, and risk. By better understanding risk reduction benefits of conservation practices, farmers can better reduce risks, increase profitability and make more informed management decisions. We recommend that USDA create a data warehouse and allow academic and research institutions to access data on practices, soil health, yield, and carbon sequestration, and climate impacts in a way that protects producer privacy. Research and data analyses that demonstrate the impacts of conservation and planting practices on crop yields, soil health, risk, and profitability should be widely disseminated and easy to access by producers and stakeholders. There is also a need for improved data reporting and sharing between different arms of USDA, including conservation and research programs.

Research on carbon sequestration: More research is needed to quantify with a higher degree of confidence the carbon sequestration potential of agricultural management systems. Current research shows the potential for many conservation practices and management systems in cropland and grazing lands to sequester carbon. However, results to date vary widely by regional and system context, and evidence is mixed as to how much each practice can contribute to carbon sequestration, how long that carbon remains stable in agricultural and grassland soils, and whether additional carbon can be sequestered with continued management improvements. Future research should include more long-term experiments that assess the ability for different management systems to maintain or continue to increase stored carbon. Soil carbon modeling efforts should account for geographical context and the complexity of real agroecosystems systems as best as possible. Where applicable, full life-cycle analyses should be used to assess the net carbon flux of different management systems. To support and create standards for emerging market incentives for carbon storage, there is also a need for research into fair, accurate pricing for carbon credits and methods to compensate producers for existing best management practices. A major component of this will be to develop new methods for measuring soil carbon rapidly, inexpensively, and accurately at larger scales. There is also a significant need for greater research and better data into forest carbon storage and sequestration, including carbon sequestration and

storage in soil carbon, dead biomass, and coarse woody debris. Lastly, there is also a need for development and use of technologies that allow for real-time, in-field or in-forest monitoring of carbon fluxes. Research prioritization should always include stakeholders from across sectors, and the role of existing USDA Climate Hubs should be expanded to include outreach to farmers, ranchers, foresters, and other land managers on climate change adaptation and mitigation.

Long-term systems research: Much of the current research on conservation practices focuses on site-based studies designed to address questions about effective management and impact of individual practices such as reduced tillage and cover crops. While these highly controlled studies are valuable at providing rigorous data on impacts and challenges for the individual practices, there is growing evidence that systems-based approaches that implement multiple soil health practices together are most effective at building on-farm resilience and reducing off-farm impacts. There is a need for more investment in long-term and large-scale research to establish research protocols that can be conducted in real-world farm settings and to explore the impacts of conservation production systems. These participatory research approaches have the potential to not only build large databases on a variety of practices, but also increase stakeholder buy-in of research findings and uptake of new farming approaches.

Behavior change research: More research is needed on behavior change interventions, including effective outreach strategies, innovative program designs and implementation approaches, and the role of farmer-based networks in supporting long-term adoption of practices. Further, research is needed to understand the dynamics of practice adoption over time, including the dis-adoption, in which producers try a practice for a period of time then abandon it. There has been a paucity of research on this phenomenon and it is not clear how widespread a challenge it is. This has significant implications for conservation program design, particularly if cost-share and other financial incentive programs only support short-term practice adoption. Investments in key agricultural research title programs related to organic and sustainable agriculture, including the Sustainable Agriculture Research and Education (SARE) Program and the Ag and Food Research Initiative (AFRI) program should expand specific priorities on researching the socio-cultural aspects of outreach to expand conservation practice uptake.

Diversified cropping systems and livestock integration research: On-farm research is needed to clarify how diversified cropping systems, integration of livestock into crop rotations, and optimization of agricultural inputs can improve soil health and other ecosystem services while maintaining or improving production and profitability. This includes greater investment in research on integrated weed management, seed breeding for crop diversity, and the ecological impacts of herbicide use on habitat and water quality. There is also a need to better understand the effects of livestock integration on soil dynamic properties and nutrient cycling in annual crop systems. To increase adoption of diversified, integrated

systems, research needs to explore viable supply chain opportunities to make diverse farm products.

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?

The easiest way to ensure that farmers and ranchers accrue benefits is to increase investment into the suite of USDA programs that farmers benefit from, including USDA conservation programs and crop insurance discounts. Education and technical assistance will ensure that farmers and ranchers understand how they can take full advantage of the restored health of their soils by reducing chemical and other inputs. Resources should be focused on ensuring small landowners and historically disadvantaged landowners can participate in USDA programs. Data on disparities across groups (such as rates of program adoption) should be public and transparent.

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?

We disagree that USDA should automatically prioritize programmatic actions, financing, or other authorities intended to encourage biofuel, bioproduct, and renewable energy applications. In promoting greater use of biofuels or bioproducts, USDA must be careful to take a science-based approach to weigh the environmental and ecological impacts of feedstock production against the potential economic benefits to farmers and rural communities. A bio-based economy cannot come at any cost, and past experience has shown how the unintended consequences of biofuel production can have grave results.

For example, multiple studies from the scientific community and government agencies have documented a wave of cropland expansion fueled by conversion of grassland and other habitat in the years following the creation of the Renewable Fuel Standard (RFS) in 2005, and its expansion in 2007.[3] [4] [5] While not all of this increased crop demand derived from the ramp-up of corn ethanol and biodiesel in gasoline, a recent study did determine that the biofuel policy resulted in 2.8 million additional acres of cropland each year, including the conversion of 1.6 million acres of uncultivated or semi-natural lands.[6] The cropland intensification and

[3] Lark et al. "Cropland expansion outpaces agricultural and biofuel policies in the United States" 2015, https://iopscience.iop.org/article/10.1088/1748-9326/10/4/044003/meta

[4] Lark, et al. "Cropland expansion in the United States produces marginal yields at high costs to wildlife." 2020 https://www.nature.com/articles/s41467-020-18045-z

[5] U.S. EPA. Biofuels and the Environment: Second Triennial Report to Congress (Final Report, 2018). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-18/195, 2018.

[6] Lark, et al 2019. http://www.gibbs-lab.com/wp-content/uploads/2019/05/RFS-synthesis-report-5.17.2019.pdf

expansion due to biofuel production also led to 27.1 MMT CO2e yr-1 added to the atmosphere, negating any climate benefit of these fuels.

In order to avoid these negative outcomes, there are a few guiding principles for the agency to follow:

First, any agency-led or -promoted initiatives should require the implementation of evidence-based climate-smart agriculture and forestry practices. President Biden has just committed the United States to an ambitious reduction in climate emissions by 2030, and any new initiatives must contribute to that goal rather than hinder its attainment. Agriculture and forestry can and will play vital roles in reaching net-zero, but leadership and incentives from USDA will be essential.

Second, new markets and incentives should focus on development of the most sustainable cellulosic feedstocks that do not compete with food crops and require the least amounts of land, water, and chemical resources. Land and water are finite resources that must serve ever increasing demands. Existing working lands must prove sufficient to produce food first, and any additional products second, without bringing new land under the agricultural footprint. This can be best achieved through cellulosic feedstocks, particularly when grown on marginal or reclaimed lands.

Next, these programs and incentives should be revisited regularly to assess whether they are achieving their goals, and whether they are causing environmental or ecological harm – either directly or through competition with other uses of land and natural resources. The RFS, for example, was crafted with this principle in mind, requiring periodic reports to Congress on the impacts of the program to the environment and air quality. Unfortunately, the Environmental Protection Agency failed to meet statutory deadlines for completing these reviews, only did so after legal action by stakeholders, and published reports that evaded solid conclusions despite a large accumulation of scientific evidence. This must serve as a cautionary example for additional biofuel or bioproduct development.

Finally, the goal of new market development should be to optimize the role these products can play in helping decarbonize the economy while contributing to rural economic diversification – not maximization of production. In keeping with the previous principle, federal initiatives should be scaled back when adverse effects are encountered or when optimal market conditions have been met.

Adherence to these principles, in addition to other best practices, will help ensure that biofuels and other bioproducts can be a responsible part of a cleaner economy that contributes to rural diversification, rather than a false panacea that actually contributes to existing climate and biodiversity problems.

Specifically, with regard to use of forest biomass for energy generation, we highlight four primary concerns: first, these products are not guaranteed to provide net climate benefits,

even in the long term; second, some of these materials may have alternative applications that could result in more durable carbon storage; third, aggressive removal of biomass from agricultural systems or forestlands may also have undesirable impacts on ecosystem integrity and biodiversity; and finally, combustion of organic materials (including processed biofuels and biomass) may endanger public health, with inequitable impacts on vulnerable communities.

In light of these concerns, which we further outline below, we encourage the agency to be prudent in its recommendations around biofuels, bioproducts, and bioenergy. USDA should only prioritize solutions that optimize carbon storage, reduce waste, and replace fossil fuels, not other renewable energy sources. This can happen in hard-to-decarbonize sectors such as aviation or industrial or residential heating. For example, high-efficiency combined heat-and-power applications of biomass in rural areas in colder climates may provide a good opportunity to use mill wastes and forestry residues.

Issue #1: Net carbon benefits of bioenergy and biofuels remain variable:

Much of the enthusiasm around bioenergy stems from erroneous assumptions about the net greenhouse gas emissions of biomass-derived fuels and products, which are often assumed to be zero, regardless of feedstock type or source, as long as forest materials are obtained from "sustainable" forest management. Although utilization of "closed loop" biomass or authentic waste products (such as residues that would otherwise be landfilled) may reduce net emissions, use of many types of materials leads to a net increase in emissions compared to fossil fuel use in the short- and medium-term[7]—i.e., increases within the timeframe when emissions cuts are needed.

As noted in the peer review of the Environmental Protection Agency (EPA) Science Advisory Board (SAB) proposed framework for measuring biogenic carbon,

> "Carbon neutrality cannot be assumed for all biomass energy a priori. There are circumstances in which biomass is grown, harvested and combusted in a carbon neutral fashion but carbon neutrality is not an appropriate a priori assumption; it is a conclusion that should be reached only after considering a particular feedstock's production and consumption cycle. There is considerable heterogeneity in feedstock types, sources and production methods and thus net biogenic carbon emissions will vary considerably."[8]

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[7] Buchholz, T., Hurteau, M. D., Gunn, J., & Saah, D. (2016). A global meta-analysis of forest bioenergy greenhouse gas emission accounting studies. *GCB Bioenergy*, 8(2), 281–289. https://doi.org/10.1111/gcbb.12245; Sterman, J. D., Siegel, L., & Rooney-Varga, J. N. (2018). Does replacing coal with wood lower CO 2 emissions? Dynamic lifecycle analysis of wood bioenergy. *Environmental Research Letters*, 13(1), 015007. https://doi.org/10.1088/1748-9326/aaa512

[8] SAB Review of Framework for Assessing Biogenic CO2 Emissions from Stationary Sources (2011). (2012). U.S. Environmental Protection Agency, Washington, D.C. Available at:

Therefore, before encouraging these uses, it is critical to assess net emissions impacts. All use of woody and non-woody biomass in biofuels, bioproducts, and renewable energy should be informed by comprehensive lifecycle assessment of these products, which incorporates the best-available scientific evidence and information on emissions associated with combustion, supply chain emissions, and harvesting emissions (including soil carbon releases), contextualized with information on variation among regions and ecosystems. Adequate consideration of alternative scenarios or fates (including non-use scenarios, in which materials are left in the field or forest to support nutrient cycling or provide habitat; see Issue #3) is also necessary. Only those feedstocks that provide net benefits in the timeframe identified by the Biden Administration for mitigating climate change should be recommended.

Issue #2: Alternative applications of woody materials may provide superior benefits:

USDA should evaluate alternative applications for those materials that must be removed from forests for legitimate reasons but are not suitable for traditional uses. If these applications promote multi-decadal storage of carbon (e.g., forest thinnings used for mass timber) or capture by-products during energy generation (e.g., biochar, bio-oil, and syngas captured during pyrolysis from ladder fuels used as substitutes for fossil fuels and to amend soils), there may be potential for greater benefits compared to alternative scenarios of landfilling or use for power generation. However, further analysis is needed before broad recommendations can be made.

USDA should also promote solutions that increase cascading use of wood,[9] rather than use of virgin materials for energy. The principle of cascading use encourages higher value-added use of forest materials at least once before use for energy capture, in order to maximize environmental and economic benefits.

Issue #3: Overzealous harvest of biomass may have negative effects on ecosystems and biodiversity:

Removing all "waste" materials (i.e., deadwood, forestry residues, and unmerchantable roundwood) from forest ecosystems may deplete soil carbon storage, representing yet another contribution to atmospheric carbon concentrations.[10] Intensive removal of biomass

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https://yosemite.epa.gov/sab/sabproduct.nsf/0/57B7A4F1987D7F7385257A87007977F6/$File/EPA-SAB-12-011-unsigned.pdf

[9] Vis, M., Mantau, U., & Allen, B. (Eds.). (2016). CASCADES: study on the optimised cascading use of wood. (No 394/PP/ENT/RCH/14/7689). European Commission. https://data.europa.eu/doi/10.2873/827106

[10] Achat, D. L., Fortin, M., Landmann, G., Ringeval, B., & Augusto, L. (2015). Forest soil carbon is threatened by intensive biomass harvesting. Scientific Reports, 5(1), 15991. https://doi.org/10.1038/srep15991; see also Aguilar, F. X., Mirzaee, A., McGarvey, R. G., Shifley, S. R., & Burtraw, D. (2020). Expansion of US wood pellet industry points to positive trends but the need for continued monitoring. Scientific Reports, 10(1), 18607. https://doi.org/10.1038/s41598-020-75403-z

may also have implications for site conditions and productivity of the forest, as soil nutrient pools are altered.[11]

Forest management can be a tool to create wildlife habitat for some taxa. A 2013 analysis by NWF and the Southern Environmental Law Center found that harvesting materials for bioenergy in the Southeast may enhance or deteriorate habitat quality, depending on forest type and taxa considered.[12] However, bioenergy harvest is also projected to contribute to conversion of forested ecosystems to plantations,[13] which are productive but generally provide many fewer ecosystem services (such as support of biodiversity) than their naturally regenerating counterparts.

Issue #4: Utility-scale forest bioenergy creates negative externalities for communities:

Beyond direct impacts on net atmospheric emissions, forest bioenergy feedstock and utility-scale electricity production can place a burden on nearby communities. If biomass is co-fired with coal, the ash from combustion must be handled and disposed of as a contaminated waste. During the combustion process, a range of air pollutants can be released—especially if combustion of materials is incomplete, or if air pollution control devices are malfunctioning or absent.[14] The potential for negative effects on local air quality and the burden on proximate populations should explicitly factor in USDA's evaluation of proposed uses of biomass or biofuels.

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

Biofuel and bioenergy production are not guaranteed to provide net benefits to rural communities. For example, biomass pellet facilities in the Southeast have evaded permitting

[11] Thiffault, E., Hannam, K. D., Paré, D., Titus, B. D., Hazlett, P. W., Maynard, D. G., & Brais, S. (2011). Effects of forest biomass harvesting on soil productivity in boreal and temperate forests — A review. Environmental Reviews, 19(NA), 278–309. https://doi.org/10.1139/a11-009

[12] National Wildlife Federation (NWF) & Southern Environmental Law Center (SELC). (2013). Forestry Bioenergy in the Southeast United States: Implications for Wildlife Habitat and Biodiversity [Report]. https://www.southernenvironment.org/uploads/publications/NWF_Biomass_Wildlife_Full_Report.pdf

[13] Favero, A., Daigneault, A., & Sohngen, B. (2020). Forests: Carbon sequestration, biomass energy, or both? Science Advances, 6--(13). https://doi.org/10.1126/sciadv.aay6792

[14] Simões Amaral, S., Andrade de Carvalho, J., Martins Costa, M. A., & Pinheiro, C. (2016). Particulate Matter Emission Factors for Biomass Combustion. Atmosphere, 7(11), 141. https://doi.org/10.3390/atmos7110141

requirements.[15] Bioenergy production facilities may present occupational hazards and increase exposure to noise and air pollutants for those in nearby neighborhoods.[16]

Although additional harvest of biomass for energy can provide supplemental revenue to landowners and lumber companies, these products are valued at only a fraction of that of traditional products such as timber or paper and of innovative products such as cross-laminated timber or bioplastics. "Climate-smart" forestry will acknowledge the potential for net increases in emissions resulting from biomass power, and will instead direct biomass that must be removed from the landscape toward higher-value uses that offer durable carbon storage or definitive reductions in net emissions, while also paying higher returns to landowners. Adopting the principle of cascading use can maximize utility in this process, as raw or virgin materials are directed toward the best use in terms of economic, environmental, and social sustainability.

Lastly, we note that robust agency support and advocacy on behalf of conservation programs eligible for farmers and foresters may ultimately achieve the same goals (i.e., to reduce atmospheric carbon storage and to financially support rural communities). Instead of *negative* externalities related to air pollution and potential land conversion, conservation initiatives that subsidize climate-friendly farm and forest management can produce *positive* externalities such as erosion reduction, habitat provisioning for wildlife and pollinators, and watershed protection.

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?

The Rural Energy For America Program (REAP) is a critical tool for helping farmers and ranchers reduce greenhouse gas emissions and create clean energy on farms and ranchers. Since its start, REAP has helped over 19,000 farmers, ranchers and rural small businesses to produce clean energy, cut energy costs, and boost rural economic development. Significantly expanding REAP would be one of the easiest ways to help drive renewable energy technologies in rural America, and we urge USDA to support efforts in Congress to increase the size of the program.

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[15] For example, see Southern Environmental Law Center (SELC). (2021). "Active Energy Sued for Illegal Pollution of North Carolina's Lumber River from Toxic Site." https://www.southernenvironment.org/news-and-press/press-releases/active-energy-sued-for-illegal-pollution-of-north-carolinas-lumber-river-from-toxic-site; SELC. (2019). "Challenge from Clean Air Groups Forces NC Wood Pellet Factory to Install Pollution Controls." https://www.southernenvironment.org/news-and-press/press-releases/challenge-from-clean-air-groups-forces-nc-wood-pellet-factory-to-install-pollution-controls

[16] Freiberg, A., Scharfe, J., Murta, V. C., & Seidler, A. (2018). The Use of Biomass for Electricity Generation: A Scoping Review of Health Effects on Humans in Residential and Occupational Settings. International Journal of Environmental Research and Public Health, 15(2), 354. https://doi.org/10.3390/ijerph15020354; see examples from the US, including a months-long fire and multiple complaints from residents at a wood pellet plant in Woodville, TX (Dick, 2020: "Suit targets Woodville plant emissions," Beaumont Enterprise).

Methane is an extremely potent and destructive greenhouse gas that is an unfortunate byproduct of animal agriculture. NWF supports efforts to capture and utilize methane for energy, where feasible, and where not possible, capturing and flaring emissions. We believe that USDA should utilize loan guarantees and EQIP cost share support for the deployment of digesters at livestock facilities as well supporting innovation in developing digester technology that can work for smaller operations.

Although we agree that rural Americans should enjoy the benefits of clean energy technologies, biomass power should not be encouraged indiscriminately. We applaud the agency on its stated commitment to "root out" historical inequity and discrimination in the USDA, and urge it apply this lens to the implications of pollutant-emitting bioproducts, including biofuels and biomass feedstocks.

Whenever USDA does attempt to support the adoption and production of woody feedstocks and biomass power, it will be critical to engage local stakeholders—especially local residents who have traditionally been excluded from such decision making—proactively and authentically. Local residents and organizers have resisted the installation of utility-scale biomass power generation and feedstock processing facilities across the country, as a result of the perceived risks to human health and well-being, the frequent presence of noise and noxious odors, and lack of opportunity to provide input.

We point to two recent examples of resistance to biomass facilities from urban communities to illustrate this need. The first is the Genesee Power Station, a 36MW biomass power plant proposed in a predominantly Black neighborhood in Flint, MI in 1992.[17] Even before the plant opened in 1995, complaints filed by local activists led to an investigation by the EPA's Office of Civil Rights. Under the Obama Administration, 25 years later, the office "found that the preponderance of evidence in the case suggested that Michigan's environmental regulatory agencies had discriminated against African Americans in the permitting processes for the Genesee Power Station in the years between 1992 and 1994."[18] More recently, in March of 2021, a decade-long battle between local residents and the Palmer Renewable Energy biomass power facility slated to be built in Springfield, MA—a designated "environmental justice" community[19] with one of the highest asthma rates in the country—ended with the revocation of its permit.[20] After the COVID pandemic put a spotlight on the importance of

[17] Mock, Brentin. (24 February 2015). "What a 20-year biomass battle tells us about environmental justice policy," Grist. Available at: https://grist.org/climate-energy/what-a-20-year-biomass-battle-tells-us-about-environmental-justice-policy/

[18] Mittlefehldt, S. (2018). Wood Waste and Race: The Industrialization of Biomass Energy Technologies and Environmental Justice. Technology and Culture, 59(4), 875–898. https://doi.org/10.1353/tech.2018.0089

[19] As defined by the state of Massachusetts, an environmental justice population consists of a block group whose median income falls at 65% or less of the median income, where 25% or more residents who identify as a race other than white, or where 25% or more residents inhabit linguistically isolated households (Mass.gov, 2021).

[20] Wasser, Miriam. (2 April 2021). "Mass. Revokes Air Permit for Controversial Biomass Facility in Springfield," WBUR. Available at: https://www.wbur.org/earthwhile/2021/04/02/springfield-biomass-permit-revoked

clean, healthy air for our health and well-being, the costs of biomass power seem higher than ever.

Small-scale biomass facilities that co-generate heat and electricity at high efficiencies, however, offer promise to rural communities. In cold climates and in buildings that require extensive heating, including schools and hospitals, decentralized community-scale biomass applications may provide a secure source of energy with modest financial benefits for local landowners and forest industries, when inclusive decision-making and planning by the community results in an equitable distribution of both benefits and burdens.[21] It is important to once again note, however, that pollution control technology is an expensive investment. In order to mitigate risks related to pollutant exposure, USDA may consider conducting outreach, providing guidance on best practices, or even subsidizing costs of pollutant-control technology in pilot projects or other agency-led initiatives to promote biomass power.

3. Addressing Catastrophic Wildfire Questions

Wildfires play an important and restorative role across American forests. However, the changing climate and other factors have caused wildfires to become a major hazard to people, communities and their drinking water, and other resources. To this end, this comment includes proposals related to wildfire, including those that would increase the use of prescribed fire and use naturally ignited wildfires, where safe and appropriate, to restore natural ecological functions that improve resilience. These proposals can serve as a tool for scaling restoration in those areas that are inaccessible to thinning and other manual treatments.

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

The USDA Forest Service manages the National Forests and Grasslands and is the primary agency responsible for aiding other forest managers in the United States. The agency has broad authority for establishing its own rules and regulations. The Forest Service can identify and develop innovative options and ideas that could help ensure it has the tools and incentives necessary to fulfill the goal of large-scale, climate-informed, ecologically appropriate forest restoration. In pursuing these actions, the role of bedrock environmental protections, including the National Environmental Policy Act (NEPA) and other environmental laws, must not be diminished. These procedures should be administered in ways that draw out the best science and local knowledge to emphasize the value of forests for water, wildlife, climate, recreation, and the many other benefits national forests provide.

[21] Mittlefehldt, S., & Tedford, C. (2014). Benefit or Burden? Environmental Justice and Community-Scale Biomass Energy Systems in Vermont. Environmental Justice, 7(4), 110–114. https://doi.org/10.1089/env.2014.0019

- The Forest Service should identify and evaluate policy opportunities that have the most leverage and potential benefit to: Develop a carbon stewardship strategy for the carbon resources in national forests, in coordination with partners -- other agencies, industries, academia, NGOs, other landowners, etc. Forest Service should set carbon stewardship goals that consider regional differences and the impacts of disturbances and a changing climate, and develop metrics at different scales. The strategy should include a research and science application component to ensure high-quality carbon monitoring, reporting, and evaluation.
- Issue agency guidance officially adopting existing carbon management principles.
- Prioritize updating all national forest plans as soon as possible under the 2012 planning regulations, which include climate considerations and need to be supported by rigorous inventory and monitoring.
- Update the National Forest System carbon assessment every five years, starting immediately, and provide the data and trends to the individual states.
- Identify and implement opportunities to incorporate climate resilience in the Forest Service's Environmental Analysis and Decision Making efforts, including implementing the various mapping and prioritization tools the agency has developed.
- Ensure agency budget allocations prioritize climate adaptation and mitigation outcomes. Review existing reforestation and restoration programs to ensure they conform with climate adaptation and mitigation best practices, and align with the recommended national carbon stewardship goal.
- Increase the capacity of USDA Climate Hubs and other research units for delivering climate-related science to forest planners and managers, and develop incentives for incorporating climate considerations into all restoration and reforestation activities.
- Develop a broader decision framework for increasing reliance on natural ignitions, where safe and appropriate, to achieve desired forest restoration, resilience, and fuels treatment outcomes.
- Increase the use of prescribed burning as a climate resilience and restoration tool especially in western landscapes.
- Develop educational and outreach initiatives to increase the social tolerance for prescribed burn smoke, as compared with the often more toxic wildfire smoke.

USDA could also request Congress authorize policy direction to improve climate-informed management of national forests. This could include requesting:

- The establishment of and funding for a sister program to DOI's Burned Area Rehabilitation program for the Forest Service for post-fire rehabilitation, that is complementary to the Forest Service's Burned Area Emergency Response program.
- Support for exploring a wildfire risk reduction fee as a source of funding, similar to that in Washington State (i.e. a fee on insurance policy transactions to fund wildfire risk reduction).

- Support for exploring ideas for more cooperative approaches to wildfire risk sharing across boundaries, including for prescribed burning (e.g. establish cooperative burn and management areas).
- Support for identifying and strengthening the link between national forests and nontraditional industry stakeholders, including insurance companies and utilities, and create a larger role for these sectors in addressing climate impacts.

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?

USDA should work with partners (other agencies, international experts and officials, academia, NGOs, etc.) in developing a carbon storage goal for national forests, one that considers regional differences, and should develop a set of metrics at different scales to inform agency work on emissions and carbon storage. This goal should be aligned with the global scientific consensus to limit warming to 1.5C over preindustrial levels, or net-zero emissions by mid-century.

The Forest Service should undertake large landscape-scale restoration that emphasizes ecological restoration and that plans for changing climate conditions and optimizing carbon storage.

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

Strong investment in climate-informed forest restoration, collaborative stewardship, research and wildfire prevention programs will help improve the health and productivity of America's forests and their ability to serve as a climate solution. Increased funding is needed for key National Forest System programs, including Collaborative Forest Landscape Restoration (CFLR), Hazardous Fuels Reduction, Vegetation & Watershed Management, Wildlife & Fisheries Habitat Management, Legacy Roads & Trails Remediation, Land Management Planning, Inventory & Monitoring, Forest Health-federal lands, and Forest & Rangeland Research. Mandator funding levels for the national forests' Reforestation Trust Fund should be increased to prioritize reforestation and restoration. A reforestation initiative funded under the Vegetation & Watershed Management program is needed to complement and leverage the Reforestation Trust Fund and post-fire restoration to achieve the goals of reforestation. Incentives that promote innovative conservation finance are needed as alternative sources of funding, which could be tied to carbon sequestration and storage and would be a significant source of funding alongside federal funding.

Policy direction for improving climate-informed management of national forests is needed. The purview of existing Forest Health Threat Centers should be expanded to become centers

of excellence for large-scale climate-informed forest management and to enhance integration with the USDA Climate Hubs and DOI Climate Adaptation Science Centers. National forest restoration authorities (e.g., CFLR program, Good Neighbor Authority, Stewardship Contracting Authority, etc.) should specifically include climate resilience and mitigation as a purpose and the Forest Service should implement climate priorities using those authorities.

Official, science-based guidance regarding the need to adopt forest carbon management principles is needed. These principles should include protecting existing carbon stocks, fostering enhanced sequestration of carbon, and reducing major wildfire emission events and other forest losses. This should also include updating national forest-level forest carbon assessments every five years, starting immediately, with publicly available data, trend analysis, and state-level information. This guidance should include a research and science application component to ensure high-quality carbon monitoring, reporting and evaluation.

The use of prescribed burning as a restoration tool to increase resilience, taking into account the various challenges across ecological regions, is needed.

Natural hazard mitigation planning and management tools and resources should include national forests to reduce long-term risks caused by disasters such as wildfire. Research, incentives, and pilot projects that support the removal of small diameter trees and waste material from restoration and risk reduction activities should be advanced.

Also, the Forest Service should conduct a lifecycle analysis for harvested wood products and consideration of counterfactual scenarios.

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?

Participation in climate smart agriculture programs can require a high degree of sophistication and access to technical services to help with measurement, planning, and reporting. To ensure small and resource constrained landowners have equal opportunity to participate in and benefit from these programs and to ensure such markets do not drive up land costs and increase land consolidation, it will be important to focus federal support on enabling participation of these landowners. Eliminating or reducing cost-share requirements for socially disadvantaged producers and streamlining paperwork burdens for these and other small- to mid-sized operations will be helpful in ensuing greater participation levels.

Additionally, USDA should examine eligibility requirements related to land ownership, parcel size, and other factors that could create barriers to entry, especially for marginalized or underrepresented groups. Heirs property remains a significant barrier for access to

conservation funding. USDA should invest in legal assistance to farmers of heirs' property including ways to promote the development of succession plans by all farming families to help alleviate future land access and program barriers based on clear land title requirements. Issuing new regulation and training on the use of alternate documentation provisions will also enable heirs property owners better access to USDA programs. To better understand farmland ownership trends and update application designs, the National Agricultural Statistics Service Survey of Tenure Ownership, and Transition of Agricultural Land as authorized in the Farm Bill should be fully funded and deployed. This study will continue to document the share of land held in heirs property and other interests including absentee ownership.

Improvements to prevent predatory practices by third parties should include upgrades to the power of attorney forms required by including written disclosures by outside entities who require vulnerable producers to pay for services USDA usually provides at no cost. The Civil Rights Office at USDA should be adequately funded and staffed to address complaints in a timely manner to correct a history of documented inadequacies. Incorporating regular audits and oversight capacity will improve transparency and trust in USDA's priorities on equitable access to programs.

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?

Permanent funding for section 2501 of the Farm Bill (Outreach and Assistance to Socially Disadvantaged and Veteran Farmers and Ranchers Program) has been critical to increasing access for socially disadvantaged and minority farmers and ranchers to conservation programs. We urge USDA to ensure that the program provides the necessary hands-on capacity building to socially disadvantaged farmers as intended with necessary stakeholder input.

USDA should focus support for research, education, and extension at Historically Black Colleges and Universities, Tribal Colleges, and other institutions that prioritize underserved communities. It should also strive to establish or increase connections between these institutions and USDA Climate Hubs and other extension research to drive cooperation and support for training, outreach, and technical assistance targeting marginalized communities.

Finally, it is important to engage local communities when introducing new programs or demonstration projects, in order to incorporate resident concerns and preferences into the planning process.

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?

Climate-smart agriculture programs should incorporate a broad set of social, economic, and natural sustainability criteria that assess resilience across these dimensions and incorporate equity and environmental justice as clear goals of these programs. Developing a broadly participatory consultation including all stakeholders particularly tribal and socially disadvantaged producers will improve equitable access and implementation outcomes. Attention should be paid to not inadvertently provide perverse incentives such as increasing GHG-emitting inputs or land and wealth consolidation at the cost of equitable distribution of benefits. As described above, USDA should also prioritize outreach and communication to historically disadvantaged and other underserved forest landowners, in order to increase access to technical assistance and financial support and cost-share programs

Conclusion

The threat of climate change is severe, and we need bold solutions that match the magnitude and scale of the climate crisis at hand. USDA has an opportunity to drive climate-smart agriculture practices and greenhouse emission reductions in a way that makes agriculture part of the solution to climate change. Increased funding for climate-smart agriculture practices and programs and related technical assistance are likely to provide numerous benefits to farmers, ranchers, and foresters in addition to carbon sequestration and storage. However, we urge USDA to thoroughly evaluate the net emissions impacts of biofuels or bioproducts before creating new incentives for them. Additionally, When crafting climate-smart agriculture policy, it is critical to not only consider ways to achieve climate gains, but also to consider ecological and societal values. In addressing climate change, land management-based strategies to remove carbon from the atmosphere must consider not just mitigation potential, but also impacts on biodiversity. Significant trade-offs can exist between carbon and biodiversity. Climate-smart agriculture policy must be structured in a way that optimizes carbon sequestration while also protecting soil, air, water, and wildlife values.

Thank you for the opportunity to comment on USDA's climate strategy. We look forward to working together to drive greater adoption of climate-smart agriculture practices on working farmland, grasslands, and forestlands.

Sincerely,

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