**Laine Randolph, Chair**

**California Air Resources Board**

**Sacramento, CA 95812**

**RE: 2022 Scoping Plan Update**

Dear Ms. Randolph, July 9, 2021

The Fire Restoration Group strongly supports the inclusion of Natural and Working Lands in the 2022 Scoping Plan Update as a key strategy to achieve the state’s ambitious greenhouse gas (GHG) reduction goals. Considered with Nature Based Solutions (NBS), the Wildfire and Forest Resilience Action Plan (2021), the Governor’s Executive Order on Biodiversity, the expanding restoration agenda of the U.S. Forest Service along with sustained funding from the Federal and State budgets we have the possibility of getting ahead of dangerous climate and wildfire trends and Biodiversity loss and return to ecological integrity, fire resilience and carbon neutrality in the (hopefully) not too distant future.

**General Comments**

The foundation for achieving these restoration goals, including carbon stability, and greenhouse gas reduction goals is to display clear, explicit, science-based definitions and accurate measurements of how and what we are calling “natural” and “working lands” and whether these lands, activities, and attributes are supporting (enhancing) or detracting (harming) these various State initiatives and plans mentioned above.

The importance of identifying elements of Natural and Working Lands (June 9th “Kick-off” slide #5) and calling out rangelands, forests, wetlands, grasslands, farmland, riparian areas, seagrass, and urban greenspace as comprising the NWL landscape in California is an important step. That said, we are interested in the deeper discussion of these elements. Some examples are: 1) is the forest sector under consideration functioning with an intact fire-regime and fire frequency which is the foundational or benchmark natural condition in California? Does the landscape under consideration contain full ecological integrity (structure, function, composition, and connectivity)? Or is the forested landscape in a degraded or in significant fire regime departure (and under consideration for investment, further protection from development) scrutinized with science-based ecological and carbon accounting methods and with that methodology publicly disclosed? Do we “credit” industrial forestry or public land reforestation efforts as carbon sinks but fail to account for our increasing wildfire trends destroying the un-natural plantation stand structure in future fire events?

The management, conservation, restoration, and maintenance of these lands will influence whether these resources act as a net sink or source of GHG emissions over time and it is critical to incentivize and fund NWL strategies that provide robust, science-based disclosure of land use history, existing conditions, to potential future conditions allowing for a thoughtful ranking of various locations/values/co-benefits/and resilience.

We support the prioritization of GHG reduction activities that provide co-benefits to people and the land. To help the state capitalize on this, we offer the following recommendations to the Scoping Plan Update:

* Develop a clear understanding of the values potential and risks on the NWL landscape;
* Identifies GHG reduction opportunity for NWL by region and landscape;
* Include a review of past actions, current ongoing actions and future potential action on the landscape and their impacts on current and future climate strategies;
* Incentivize actions with significant, positive climate outcomes and co-benefits, and limit and increase regulatory oversight of actions that work against the State’s climate, wildfire resilience, biodiversity, and public safety and equity goals.
* Utilize federal, state, regional and local, plans and policies to inform the Scoping Plan Update, especially focus on the best available science regarding sustainability, ecological integrity, and fire ecology and reforestation on forest federal lands.
* Prioritize NWL climate strategies that benefit socially disadvantaged communities and underserved populations;
* Address the intersection of NWL climate strategies with the decarbonization of other sectors. In particular, the carbon, biodiversity, and public health and safety benefits of certified organic agriculture (see below).

**Specific Comments**

**1.** **Set strong and immediate goals for Natural and Working Lands that identify important sectors and activities (forestry, animal and plant-based agriculture, land protection opportunities, restoration opportunities, ranked co-benefits, policy change and regulatory options, and funding pathways) for each region of the State.**

The magnitude of GHG reduction potential from California’s vast natural and working lands cannot be overlooked. Studies suggest that different management, restoration, and conservation strategies across California's landscapes can reduce over 500 MMT of CO2e by 2050.[[1]](#footnote-1) Given the pace that we need to reduce emissions, California should pursue the most ambitious scenario to maximize GHG benefits from NWL.

At the same time, without thoughtful, timely action to ensure the resilience of these lands, we risk losing their potential to serve as significant carbon sinks. And worse, if we fail to act now, California’s natural and working lands could increasingly become a net source of emissions - while losing their ability to provide vital co-benefits that are essential to our long-term resilience.

To this end, we urge CARB to set clear and ambitious goals for natural and working lands in the forthcoming Scoping Plan Update. This will advance multiple benefits for the climate and California, and help the state meet its long‐term climate goals with more certainty. In setting these goals, we urge CARB to be able to identify greenhouse gas reduction opportunities by different landscapes and regions. This is important as regional conditions will vary and affect emission reduction opportunities. Such regional and landscape specific information can also inform local governments’ efforts as they develop and implement climate action plans. Setting goals or identifying GHG reduction opportunities for certain landscapes or regions may require additional research if there is currently not enough data to support setting a goal, and we encourage that funding be directed to support this research. One such area involves soil carbon accounting in relation to forestry practices which was not addressed in the 2018 Forest Carbon Action Plan.[[2]](#footnote-2)We urge more analysis and modeling be done to identify GHG reduction opportunity in land types such as shrublands and deserts, and forest soil carbon retention which may offer significant carbon sequestration benefits from avoided land conversion but would benefit from additional research.

*Recommendation: Set an ambitious GHG emission reduction goal for California’s natural and working lands,* ***including incentives for expansion of organic agriculture****, that is aligned with available scientific analyses, regional and landscape differences, and the urgency to address climate change.*

**2. Ensure the Scoping Plan Reflects Past Actions, Ongoing and Potential Future Actions on the Landscape; Include Land Use Policy Pathways, Strategies in the Scoping Plan.**

It is critical that the Scoping Plan integrate lessons learned from past actions (like forest, wetland, and grassland management) along with strategies that anticipate future change (like increased development and land conversion, increased high severity wildfire patch size, increased fire risk from large scale plantation forestry). To this end, the Scoping Plan Update must have a robust inclusion (temporal and spatially explicit) of the land use issues and activity types, as they relate to NWL climate strategies.

Conditions on the landscape are dynamic due to a myriad of factors including climate change, drought, species movement, a growing population, increased development, and sprawl. It is critical to plan for a changing landscape and reflect on past actions to anticipate future change.

* *Integrate Land Conservation and Stewardship in Land Use Planning and Development to Maximize Climate Benefits*

Urban sprawl development threatens to undermine the state’s efforts to curb GHG emissions, provide affordable, transit-rich housing, and conserve some of the world’s most productive agricultural lands and biodiverse wildlands. According to a 2018 CARB report, the state’s regions are not on track to reduce transportation related GHG emissions and related vehicle miles traveled, as intended when the Sustainable Communities Strategies requirements for regional governments were established by Senate Bill 375 (2008).[[3]](#footnote-3)

Allowing increased development into the wildland urban interface (WUI) has, and will continue to, increase fire risk through development in high and very high fire risk landscapes.[[4]](#footnote-4) Fragmentation of habitat, loss of native plants, and increased sources of ignition from power lines, cars, and other human-related activities have resulted in intense fires and massive smoke pollution throughout the state and the destruction of whole towns (Camp Fire 2018). Unless there is significant change in land use planning and development, the state will not reach its climate targets of 40 percent reductions in GHG emissions below 1990 levels by 2030 and carbon neutrality by 2045.

Integrated land use planning and development can offer an important way out of California’s dual housing and climate crises while accommodating an increase in population. According to the Governor’s Office of Planning and Research, “…with compact, smart growth development, California can reduce the amount of land that is needed to accommodate the state’s population of 50 million by nearly 75 percent relative to business as usual (BAU) land use policies.”[[5]](#footnote-5)

Additional impacts on land use come from rising temperatures and greater weather extremes that will impact water resources in the state. As droughts are becoming the norm across the west, agricultural land is at greater risk of going out of production and being converted to other uses, threatening additional GHG-intensive sprawl development. Other competing land uses from biofuels production to large-scale renewable energy development require additional focus on integrated land use planning (see more below on the intersection with decarbonization of other sectors).

As such, land use challenges and opportunities for NWL climate strategies must be included in the Scoping Plan and policy pathways outlined for the state to advance its efforts to achieve Sustainable Communities that center equity, resilience, and conservation.

Further, to meet the state’s goal of providing 100% renewable energy by 2045 (SB 100), it is estimated that one million acres of land will need to be converted for renewable energy siting.[[6]](#footnote-6)

* *Restore Carbon Stocks Through Improved Management and Conservation*

Restoring more natural levels of carbon in natural and working lands presents a cost-effective opportunity to mitigate GHG emissions and the largest opportunity to safely remove excess CO2 already in the atmosphere. A synergistic benefit is that many actions which increase net carbon stocks also improve resilience in natural systems like wetlands and forests, among others.

Mining, diking, urbanization, and other conversions have reduced the extent of natural wetlands, including vernal pools, coastal wetlands and riparian areas, by more than 90% across California.[[7]](#footnote-7) These ecosystems are incredibly effective carbon sinks and can also serve to mitigate sea level rise, provide protection from stormwater surges, reduce flood risk, offer groundwater filtration and improve water quality – all while providing important habitat and a host of recreation opportunities. The state should prioritize the conservation of existing wetlands and support the restoration and construction of degraded wetlands to ensure that these systems can serve as net carbon sinks while protecting adjacent communities.

Like wetlands, forests provide tremendous carbon storage opportunities. Decreasing the intensity of commercial forest management to allow increased growth and carbon stocks is the greatest near-term opportunity to remove CO2 from the atmosphere. “Middle aged” and older forests grow quickly and increase live carbon stocks in the near term. This is an immediate opportunity to increase carbon stocks in the next decade, and for longer term climate goals.

California must continue to invest in both active forest restoration and permanent conservation of forest ecosystems, in which we are working to re-create more natural structure, including bigger, older, and more fire-resistant trees. Importantly, to achieve ***Carbon Stability*** in California’s forest lands it is essential to re-establish the science-based fire regime and fire frequency on our remaining wildlands. Coupled with the re-establishment of the large, older size class of trees, we can approach a level of resilience lost due to old growth logging and fire suppression in the past 170 years. Young even-aged stands (uniformity) is counter to fire and drought resilience and ecological integrity. Collectively, improving forest management (including increasing harvest rotation age and using selective harvesting methods), restoring forest cover in riparian areas, restoring oak woodlands, and the natural fire regime will create healthier forests that sequester more stable carbon and are more resilient to fire, drought and climate change, with significant co-benefits.

To ensure carbon sequestration increases over time, the state should prioritize and substantially increase ecological thinning and restoration actions including prescribed fire and wildfire managed for resource benefits, where the benefits are secured with a reliable commitment to management that stabilizes and/or increases above ground carbon stocks, while simultaneously creating structurally complex, diverse, and resilient forests. Projects that provide multiple co-benefits such as water quality and security should also be prioritized.

In addition, we appreciate the efforts underway to work with tribes and learn from their long history of cultural land management which involved significant levels of fire use. Partnerships like these are critical for successful management and restoration of our lands.

*Recommendations:*

1. *Include a land use section of the Scoping Plan that brings together strategies to reduce VMTs and biological carbon emissions through compact, infill development of affordable housing and urban greenspaces with conservation of natural and working lands at the urban and suburban edges and prioritize conservation and restoration actions that restore carbon stocks in California’s natural lands.*
2. *Couple active forest restoration with long-term or permanent commitments to climate resilient management that maintains, increases, and stabilizes carbon stocks, such as through working forest conservation easements and significantly expanded restoration of beneficial fire within the natural range of variation for California’s fire regimes and vegetation types.*

**3. Utilize Federal, State, Regional, Local, Plans and Policies to Inform the Scoping Plan Update**

There are numerous other plans and policies that can inform the Scoping Plan Update. We offer the following, but this list is not meant to be exhaustive. We have also attached our comments on the Climate Smart Strategy that includes references to other plans and policies. In addition to the reports the administration is currently working on (e.g. the Climate Smart Strategy, the State Adaptation Plan, and the Pathways to 30x30 report), we should look back at recent work to inform the Scoping Plan Update, including:

* Environmental Goals and Policy Report:<https://opr.ca.gov/docs/EGPR_Nov_2015.pdf>
* Sustainable Communities Act:<https://ww2.arb.ca.gov/resources/documents/tracking-progress>
* Natural Community Conservation Planning: <https://wildlife.ca.gov/Conservation/Planning/NCCP>
* TerraCount:<https://maps.conservation.ca.gov/terracount/>
* Staff Report: Administration of the Affordable Housing and Sustainable Communities (AHSC) Program. July 10, 2014:<https://la.streetsblog.org/wp-content/uploads/sites/2/2014/08/AHSC_Admin_Staff_Report.pdf>
* Next Ten’s 2019 California Green Innovation Index. Oct. 8, 2019:<https://www.next10.org/publications/2019-gii>
* Intergovernmental Panel on Climate Change, 2018: Summary for Policymakers:<https://www.ipcc.ch/sr15/chapter/spm/>
* Ag Resilience Act (HR 2803):

<https://www.congress.gov/bill/117th-congress/house-bill/2803/text?r=3&s=1>

* USDA, Forest Service—PSW-GTR-270 (2021) Postfire Restoration Framework for National Forest of California <https://www.fs.fed.us/psw/publications/documents/psw_gtr270/>
* USDA, Forest Service PSW-GTR-220 (2009) An Ecosystem Management Strategy for the Sierra Nevada Mixed-Conifer Forests <https://www.fs.fed.us/psw/publications/documents/psw_gtr220/>
* USDA, Forest Service—National Report on Sustainable Forests 2010 (FS-979 2011) <https://www.fs.usda.gov/treesearch/pubs/54685>

Note that we do not recommend using the assumptions in the CALAND model; the landscape restoration and conservation efforts modeled in that effort were based on subjective assessments of what was politically feasible, rather than what was biologically or physically feasible.

**4. Prioritize NWL Climate Strategies that Provide Multiple Benefits**

As Governor Newsom’s Biodiversity Executive Order (EO-N-82-20) states, natural and working lands sustain our economy, support our unique biodiversity, provide local access to nature, contribute to the global food supply, support outdoor heritage and provide clean water and air.[[8]](#footnote-8) Sustaining these lands is critical to tackling environmental, social, and economic challenges.[[9]](#footnote-9) There is also increasing evidence of the importance of nature for human mental and physical well-being. A recent report[[10]](#footnote-10) released by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) demonstrates the intrinsic linkage between climate and biodiversity.

In California’s agricultural economy, consumer demand continues to grow for organic and sustainable food. Sustainable agricultural management that is based on the conservation of natural resources, reduced synthetic chemical inputs and biological management can provide a host of climate benefits. Those include increased carbon sinks and reduced nitrous oxide and methane emissions, groundwater recharge, drought mitigation, flood risk reduction, fire mitigation, enhanced biodiversity and habitat, and reduced nitrate leaching while improving water quality.[[11]](#footnote-11) Other benefits include a more resilient food production system and better and more equitable economic outcomes for farmers, ranchers, and farmworkers and improved healthy food access.

**Below is a suite of recommendations from the California Organic Farming Community.**

[CDFA’s farmer and rancher led climate change solutions listening session](https://www.cdfa.ca.gov/oefi/climate/docs/CDFA_Farmer_Rancher_Led_Climate_Solutions_Meetings_Summary.pdf).

1. Pay for certification and inspection fees for farmers transitioning to organic practices.

2. Provide free consultations with experienced experts for farmers and ranchers who want to transition to regenerative and/or organic. Consultants should have years of hands-on experience informed by data and science, besides University of California (UC) Cooperative Extension.

3.Build markets for farm products with the highest carbon sequestration. Scaling organic labeling and requiring public kitchens to buy 60% organic are two ways to do this.

4. Develop and expand the Fertilizer Research and Education Program (FREP) scope, to include manures. Similar to FREP, conduct research and provide recommendations for improving nutrient management using organic sources of nutrients, such as manures.

5. Incentivize farmers to achieve or transition to regenerative organic certification.

6. Promote programs advancing climate change solutions, such as California Certified Organic Farmers (CCOF), Agricultural Services Certified Organic (ASCO), Sustainability in Practice (SIP) and the Irrigated Lands Regulatory Program (ILRP).

7. Research and quantify the benefits of transitioning from conventional to organic farming practices.

8. Support experiments to identify strategies for maximizing microbial productivity and soil biodiversity, for example long-term, large-scale trials on organic farms using multi-species cover crop blends (with a minimum of eight species suggested by previous studies) plus compost.

9. Look to the USDA National Organic Program as an existing farmer-led solution

10. Research and publish case studies of self-identified successful organic farmers that include economic breakdowns and explanations of choices and decisions the farmer made. Highlight and recognize in these case studies the quantitative and qualitative outcomes and benefits of on-farm solutions to the farmer, on-farm biodiversity, and adjacent land uses and ecosystems.

11. Provide funding or cover start-up costs through HSP for transitional organic certification. Organic has a market-based premium built in to incentivize adoption. The challenge is growers must go through a three-year transition period to convert to organic. That process must be funded by the grower (and any Healthy Soils programs which they may qualify for). Only after this transition period can the grower start recouping their investment. For open field crops, being made by many California famers while also providing significant funding, technical assistance and other support to help California farmers transition away from agricultural reduce the use of synthetic pesticides. o three years can seem like an eternity to have more expensive farming methods without the financial support.

12. Waive certification and inspections fees and provide consultation on organic farm plans, to get a bigger return on investment for carbon sequestration compared to incentivizing siloed practices like HSP is doing using COMET-Planner.

13. Support farmers in the transition to organic farming practices. Current pesticide-dependent farming practices are not addressing the increase in pest impacts as a result of climate change.

14. Compensate farmers for the fees for organic transition, certification, and inspections (the Pennsylvania Farm bill provides an example of this approach). Paperwork requirements and certification costs are some of the biggest barriers to adopting and maintaining organic farming practices.

15. Offer free or subsidized consultation to develop an organic farm transition plan for those interested in transitioning (the Pennsylvania Farm bill provides an example of this approach).

16. Subsidizing transition to organic farming (covering expenses related to development of organic plans, ensuring no farmer has to pay for organic certification, providing a full day or two of free transition assessment/services, etc.).

17. Working with other government entities to support public procurement from small-and medium-sized California organic farmers, especially from socially disadvantaged farmers.

18. Add an incentive program for adoption for integrated or organic pest management practices to have a more holistic and comprehensive approach to climate change resiliency.

19. Develop something similar to the NRCS cost-share program to support farmer transition to organic practices.

20. Improve the HSP modeling tool to include farmers who want to do whole orchard recycling, compost and cover crop on the same field. Funding has been denied to farmers for these three practices because of the limitation of HSP modeling for organic carbon inputs to soils. This was a lost opportunity for HSP.

21. Review the results of Dr. Horwath’s research at UC Davis that concludes that the metric of organic was a better predictor of carbon sequestration compared to no till and cover crops. Adopt policies in accordance with those findings.

22. Work with CARB to reduce prerequisites that may be a barrier to investments for scaling transition to organic farming practices.

23. Find ways to overcome the restrictions that limit organic farmers’ ability to recycle into organic systems. Food waste and brewery waste grain would be good examples of this.

24. Allow transitional organic or organic certification to be a qualification for HSP funding, rather than requiring farmers to resubmit the same information as that program.

25. To sequester carbon, require public kitchens to buy a steadily increasing amount of organic. For example, 10% by 2025 and 10% more each year until 50% by 2028.

26. Promote organic farming by implementing a buy-local policy for State-funded public kitchens.

27. Encourage “systems” and not “practices”; research shows organic blocks using cover crops sequester more carbon than any other combinations of practices.

In a similar vein, conservation and/or restoration efforts across California’s public and private landscapes carry numerous resource quality and habitat benefits. Some of these benefits are critical in protecting Californians and ensuring equitable access to needed resources. For example, in source watersheds, restoration of forests and meadows helps to protect and enhance vital water supplies for the state. Further, increased protections on public lands through designation of new parks, wildlife refuges, wilderness areas, or national conservation lands or increased protections for federal roadless areas will also provide carbon sequestration, and air and water quality benefits. Many of these benefits also support biodiversity conservation and align with the state’s Pathways to 30x30 efforts. Additional benefits, like flood risk reduction and increased groundwater recharge, can protect communities directly from the unavoidable impacts of climate change.

These lands also provide job opportunities to neighboring communities, many of which are vulnerable and disadvantaged. For example, urban forest planting and management serves as a major source of green jobs with enormous potential for further local job creation in communities where it is needed most.[[12]](#footnote-12) And restoration of rural forests and watersheds provide good jobs in areas that have some of the highest unemployment in the state. At the federal level, the Climate Stewardship Act would reestablish the Civilian Conservation Corps to create tens-of-thousands of new jobs as well as support rural reforestation efforts with a goal of establishing 2.5 billion additional trees on U.S. Forest Service and Department of Interior lands and adding $100 million for the U.S. Forest Service Community Forest Program in 2021. While we are supportive of forest restoration and reforestation in California these efforts should never occur at a scale, intensity or in a uniform pattern that is inconsistent with the natural fire regime and ecological integrity of the landscape. Pines in Lines[[13]](#footnote-13) uniformity is not fire or drought (climate) resilient. Heterogeneity = Resilience.

**5. Prioritize NWL Climate Strategies that Benefit Socially Disadvantaged Communities and Underserved Populations**

The Scoping Plan Update should prioritize NWL climate strategies that provide multiple benefits, including improved outcomes for economically disadvantaged communities and underserved populations, including socially disadvantaged farmers and ranchers. These benefits include improved air and water quality, reduced threats from wildfire, improved climate resilience, greater economic outcomes and employment opportunities.

As stated by the Equity Advisory Panel, “too often, equity is not appropriately considered, planned for, executed, or evaluated in government programs. It is important to commit to and practice racial equity in the design of strategies.”[[14]](#footnote-14) In this update, CARB should ensure underserved communities and socially disadvantaged farmers and ranchers, as defined by the Farmer Equity Act of 2017, are prioritized and that limited resources provide maximum benefits to these communities and underserved producers. We note that there is much more work to be done in this space and it is critical it be done hand-in-hand with members of underserved communities to inform the state’s efforts. These efforts should include the Office of Planning and Research’s platform to understand community vulnerabilities.

Twenty-five million acres of land suitable for nature-based climate solutions falls within disadvantaged and low-income communities. This accounts for more than 60% of all suitable land (for nature-based climate solutions) in California.[[15]](#footnote-15) By improving air and water quality, promoting open space, expanding urban forests and supporting ecosystem health, natural and working lands benefit these communities directly, while also helping to increase climate resilience.

A recently released paper by The Nature Conservancy found that reducing wildfire severity through thinning and prescribed burns *alone* offers the opportunity to reduce GHGs on over 9.5 million acres of low-income communities, many of which are located in the North Coast, Sierra Nevada and Southern Cascades regions.

* *Urban Forestry and Green Infrastructure*

Ninety-five percent of Californians live in urban areas where trees and related green infrastructure support a myriad of human health, socioeconomic, and ecological benefits that range from cleaner air and water to green jobs to local access to nature. Urban forests are the single most effective tool to combat the “urban heat island” effect, and extreme heat. Extreme heat events pose a serious threat to public health, infrastructure, agriculture, and water and energy resources.A 2015 urban forestry study showed that an increase in tree canopy cover from the study area’s current 10 percent to a targeted 25 percent resulted in an average daytime cooling benefit of up to 35°F in residential neighborhoods at the local scale.[[16]](#footnote-16)

Disadvantaged and low-income communities have experienced various environmental pollution for decades. Now these communities need to simultaneously address environmental issues but also adapt to the changing climate including as extreme heat.

There is a strong need for more trees and urban greenery, especially in areas that the State has identified as priority populations in addressing climate change: low-income blocks in the U.S. have, on average, 15.2% less tree cover than high-income blocks, and summer temperatures are 1.5°C hotter with the former.[[17]](#footnote-17)

* *Sustainable Agriculture and Healthy Food Systems*

Small and mid-scale farms make up the vast majority of California farms.[[18]](#footnote-18) Socially disadvantaged farmers, defined as farmers of color, make up nearly a quarter of California farmers. Farms operated by Latino and Asian American farmers are among the fastest growing segment of California’s agricultural industry. Small and mid-scale farmers and socially disadvantaged farmers are also among the least resourced and least prepared to address a changing climate, but their contribution to our food security and rural communities makes them essential partners in climate solutions. As the state deepens and expands its efforts to build a more resilient food and farming system, the Scoping Plan should emphasize the need for resources for those farmers, farmworkers, and rural communities most at risk.

*Recommendation: Prioritize NWL climate strategies that center equity and provide multiple environmental, public health and economic co-benefits.*

**6. The Scoping Plan Should Address the Intersection of Natural and Working Lands Climate Benefits with Decarbonization of Other Sectors**

Land-based actions and outcomes intersect with the work to decarbonize other sectors in a variety of ways. Efforts to reduce VMTs can be enhanced with promotion of infill and conservation of natural and working lands. The promotion of distributed generation (e.g., rooftop solar), energy storage, and energy efficiency reduces the need for utility-scale renewable energy, which will decrease the amount of land needed for energy generation. Increased urban forest canopy reduces energy demand and make communities more walkable and bikeable. On-farm renewable energy, especially solar and wind, offer real opportunities to further the state’s efforts to supported distributed generation. Alternative manure management practices in the dairy and livestock industries can reduce potent methane emissions while producing products like compost that support healthy soils sequestration strategies. These land-based decarbonization efforts and related efforts should be explored in the Scoping Plan Update. We also offer the following on forest bioenergy issues:

Woody material generated as a biproduct of forest restoration or commercial management is sometime converted to energy, a positive alternative to open pile burning of the waste material. However, energy supply from forest biomass must always be scaled to rely only on the amount of material that is generated by restoration and as a byproduct of commercial timber harvest, so that it is driven by being a waste disposal mechanism. It should also be understood that as restoration efforts expand, and ecological fire is restored available biomass material will be reduced below the current levels.

The siting and air quality impacts of bioenergy facilities raise a number of other environmental and social justice concerns. Our groups are dedicated to ensuring clean air and clean water for all. We believe that siting biomass facilities in California Clean Air Act non-compliant air basins should be avoided to reduce pollution burdens on disadvantaged communities, unless those facilities can be shown to reduce emissions from other sources of burning. All facilities must be utilizing the best available control technology and upgraded as new technology appears on the market.

*Recommendation: Prioritize actions that decarbonize other sectors and protect natural and working lands thereby providing multiple co-benefits. In addition, new bioenergy facilities should generally be located in air quality basins in compliance with federal and state standards and should incorporate emissions control technologies to ensure they remain within state, federal, or tribal standards. This precludes the siting and building of additional biomass facilities in non-compliant air basins, like the Central Valley, unless a net reduction in emissions can be achieved.* The likelihood of severe wildfire smoke tradeoffs should be part of this calculation when siting new facilities on rural, forest communities within high and very high-risk areas of the State.

**7. Conclusion**

California needs to approach restoration, conservation, and improved management of natural and working land with the same level of urgency that we are pursuing the transformation of our transportation and energy sectors – even more so because earlier actions bear greater carbon sequestration and adaptation benefits. We appreciate your consideration and stand ready to help support CARB’s efforts to update the target for the natural and working lands sector in achieving the State's carbon neutrality goal and better integrate the role of this sector through the Scoping Plan.[[19]](#footnote-19) Please reach out to us to engage in further discussion or if there are any questions.

We have contributed to the Forest Carbon Action Plan (2018) and the recent 2020 Greenhouse Gas Emissions of Contemporary Wildfire, Prescribed Fire, and Forest Management Activities.

NOTE: I have relied heavily of the excellent comment letter submitted by Pacific Forest Trust, Defenders of Wildlife and others today, but we have also added significant additional comments in addition specifically on fire and fire’s role in restoration and carbon stability. Also, comments on the value of Organic Farming. I own the first certified organic acres in El Dorado Co. for 35 years and remain CCOF Certified with annual inspection of my records, farm and practices.

Sincerely,

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1. Chamberlin, S. J., Passero, M., Conrad-Saydah, S., Biswas, T., Stanley, C. K. Nature-based Climate Solutions: A Roadmap to Accelerate Action in California. 2020. <https://www.nature.org/content/dam/tnc/nature/en/documents/TNC_Pathways12-4.pdf> [↑](#footnote-ref-1)
2. See the 2-28-21 comment letter from The Fire Restoration Group and Sierra Forestry Legacy on: Greenhouse Gas Emissions of Contemporary Wildfire, Prescribed Fire and Forest Management Activities (December 2020) [↑](#footnote-ref-2)
3. California Air Resources Board. 2018 Progress Report: California’s Sustainable Communities and Climate Protection Act. November 2018. [↑](#footnote-ref-3)
4. [↑](#footnote-ref-4)
5. 4 OPR. A Strategy for California @ 50 million: Supporting California’s Climate Goals. The Governor’s Environmental Goals and Policy Report. Nov. 2015. Page 12. [↑](#footnote-ref-5)
6. Under the high electrification scenario set forth in the 2021 SB 100 Joint Agency Report, an average of 2.7 GW/year of solar and 0.9 GW/year of wind will need to be built each year to stay on track for 2045 goals. A back of the envelope calculation on the land use needed each year suggests that is on the order of ~36,500 acres for wind and ~22,100 acres for solar each year for the next 25 years, resulting in more than a million acres of land needed. [↑](#footnote-ref-6)
7. https://mywaterquality.ca.gov/eco\_health/wetlands/extent/loss.html [↑](#footnote-ref-7)
8. <https://www.gov.ca.gov/wp-content/uploads/2020/10/10.07.2020-EO-N-82-20-.pdf> [↑](#footnote-ref-8)
9. Id. [↑](#footnote-ref-9)
10. <https://www.ipbes.net/events/launch-ipbes-ipcc-co-sponsored-workshop-report-biodiversity-and-climate-change> [↑](#footnote-ref-10)
11. The State Water Efficiency and Enhancement Program (SWEEP) is currently under review to improve the program’s efforts to not only address surface water use efficiency but also groundwater sustainability. Such on-farm technical assistance and financial incentives approaches remain popular among producers and can make lasting changes in on-farm water management. [↑](#footnote-ref-11)
12. For more information, see:<https://californiareleaf.org/resources/green-jobs/> [↑](#footnote-ref-12)
13. North et al. (2019) Reforestation for Resilience <https://www.fs.usda.gov/treesearch/pubs/58145> [↑](#footnote-ref-13)
14. Equity Advisory Panel Summary: <https://www.californianature.ca.gov/pages/get-involved> page. 3 [↑](#footnote-ref-14)
15. Nature-Based Climate Solutions: A Roadmap to Accelerate Action in California: https://www.nature.org/content/dam/tnc/nature/en/documents/TNC\_Pathways12-4.pdf [↑](#footnote-ref-15)
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