



CALIFORNIA
NATIVE PLANT SOCIETY

June 24, 2022

Chair Liane M. Randolph
California Air Resources Board
PO Box 2815
Sacramento, CA 95812

Re: 2022 Scoping Plan Update - Natural and Working Lands Scenarios Draft Scoping Plan

Dear Chair Randolph:

We appreciate CARB Staff undertaking inclusion of Natural and Working Lands (NWL) as part of the Scoping Plan Update process, and your affording several opportunities to provide comments and input. Modeling how shifts in management of natural and working lands across the state can alter California's path toward carbon neutrality is a massive undertaking based on multiple assumptions. Those assumptions should be based on strong ecological underpinnings, and bolstered by monitoring to check and refine models for future plan updates.

Policy drives GHG Inventory Sector modeling, but not NWL

California has set ambitious decarbonization goals for the built environment, and these clearly drive modeling of GHG emissions reductions. The state is also currently engaged in massive projects such as fuel reduction, healthy soils and forests, and restoration and tree planting, but these are poorly incorporated into the models, or not included at all. Too much of the policy-driven work is based on "more of the same" for fuel reduction; ignores targets for organic, restoration, land repurposing or retirement under the Sustainable Groundwater Management Act, and land protection under 30x30. The model needs to include an increase in Rx burning, which is the best emissions reduction plan for wildfire¹, as well as broadcast burning's role in improving soil health and helping moderate some natural disease and pest cycles. Instead, current mismanagement of fuels and promotion of suppression policies is carried forward and amplified even though models clearly show that all suppression eventually fails. Additionally, managed fire is not included as a potential option even though this has been a policy used by the US Forest Service—one of the major forest landowners in the state.

Executive Order N-82-20 requires the inclusion of equity in its overarching triple goals. CNPS supports the [recommendations of the Environmental Justice Advisory Committee](#) and urges full adoption of F3 and F4, O, and N in particular. Pointing to a need for Direct Air Capture (DAC)

¹ [Prescribed fire as a means of reducing forest carbon emissions in the Western United States](#), Environmental Science and Technology

because in the near term NWL will be a source, when DAC is unproven technology that is also not available in the near term, is illogical. Carbon Capture and Storage and DAC are both unproven and unmeasured, why not invest in measurement and research of NWL carbon capture and storage which can provide more co-benefits? Why lock in particular technology instead of stating a desired future and providing for innovation, such as combining distributed solar with batteries and stimulating research in battery storage through ZEV 2-way charging; transitioning gas stations to charging stations with rooftop solar; and investing in passive solar and non-battery (mechanical, heat-based, or other) energy storage to reduce mining impacts.

The state could further incentivize local/county carbon planning, strengthen CEQA guidelines and review around GHG emissions, and provide strong minimum standards for general plans and climate action plans as other policy levers to reduce climate impacts.

GHG Inventory and NWL Scenarios are not integrated

The plan would benefit from a full-system ecological model identifying where major sectors overlap, and where assumptions from one affect another. One (accidental?) example of this being included in the plan is the reduction in nitrogen deposition on NWL in out-years: this is an often unrecognized benefit of emissions reductions and ZEV adoption. But several important additional examples include the following:

- increased organic farming resulting in reduced pesticide production;
- water, pesticide, and greenwaste reductions from native plantings in urban areas and therefore energy savings;
- industrial-scale green energy increasing land conversion and fire risk (from additional transmission and distribution lines in particular);
- conversely, reduction in wildfire from rooftop solar (fewer ignitions from Tx/Dx lines).

Lack of coverage and ecological underpinnings hamper model effectiveness

Highlighting several important errors and omissions in the plan:

- The plan indicates IPCC guidance restricts the inclusion of soil inorganic carbon, and only allows for soil carbon to be modeled to 30cm depth; neither of these is true, and using [30cm vs 1m misses half of soil carbon](#).
- The plan covers carbon only, and ignores CH₄ for NWL which can also be released or absorbed particularly by wetlands or forests.
- There are more wetlands than just the delta, eg coastal wetlands and meadows/seasonal wetlands in montane and valley areas; [IPCC methodology](#) exists for these areas and additional inventories and modeling should be available to allow for inclusion in the final plan.
- Include reduced mortality for increasing urban tree cover, as heat-related mortality is a top climate-related killer and tree cover reduces heat islands.
- Average cost/T CO₂e is not an appropriate metric for NWL.

- Costs per acre unclear: do they incorporate repeat inputs (e.g. fuels work may need to be repeated on a 3, 5, or 10-year interval; invasive species treatment can be intensive for 3 years then reduce to a minimal level thereafter)?
- Invasive species do not increase pesticide use, invasive *treatment* can increase pesticide use. This section ignores that invasive species have direct health impacts (mosquitos and ticks are projected to increase in distribution and abundance), transportation impacts, water impacts, tree death, increases in fire frequency and severity, and many other impacts. The state could improve pest reduction without increasing pesticide use through reinstating district invasive species biologists and fully staffing border inspection stations—prevention and Early Detection/Rapid Response are the most cost-effective forms of invasive species management.
- Restoration of perennial grasslands is an important belowground C storage pathway.
- Based on projected funding for Healthy Soils and related programs (EQIP), the plan underestimates pace and scale of HSP and organic ag conversion.
- The plan underestimates the value of restoration and groundwater/soil recharge work, particularly by expanding meadows, in increasing fire protection.

All models are wrong, some models are useful

The plan is based on modeling, but this work can result in a feedback loop if real-world measurements are not included. CARB has the opportunity in its grant funding allocations to help define how information can be collected to check and improve working models, and incorporate sequestration metrics in protection, restoration, and management. These measures must have transparent, repeatable performance indicators and involve stakeholders in the creation of goals to improve buy-in on management needs and provide “reality checks” on prospective or proposed work. We recommend addressing the [largest sources of error/uncertainty](#) in models through prioritizing research in these areas.

Given how many unstated but critical assumptions underpin the scenarios presented, CNPS requests CARB convene a non-agency advisory group of land managers, ecologists, scientists, and practitioners to better revise the assumptions and inputs into the model. We appreciate the opportunity to comment and look forward to further involvement in this critical work.

Sincerely,



Andrea Williams
Director of Biodiversity Initiatives
California Native Plant Society