

EJAC Recommendations for Natural and Working Lands (NWL) Scoping Plan Update (2022)

Context

Natural and Working Lands (NWL) is a vital scenario for fulfilling the promise of the 2022 Scoping Plan. No other scenario has the potential to impact our everyday lives and to address the state's unequal history while transforming our communities into the resilient spaces we need to survive the already unfolding climate crisis. Unfortunately, this vital element wasn't sufficiently modeled within the performance period of this planning ritual, so we can only make preliminary recommendations at this point.

CARB's modeling shows NWL as a continued net source of emissions. This result is largely due to questionable inputs on emissions from wildfires (and undervaluing contributions from non-forestry segments of the NWL sector), assuming that all carbon in a forest will be emitted, when in fact substantial amounts of carbon actually remain sequestered in large trees.¹ The NWL modeling results are also driven by assumptions about optimal wildfire mitigation strategies. Specifically CARB uses forest "thinning" (usually by logging interests) with biomass incineration as a primary tool, in contrast to preservation of mature trees and controlled burns. Forestry and wildfire impacts on emissions are complex and require further independent assessment. CARB should focus on NWL least-regret multiple co-benefit strategies to meet sequestration targets, such as increased organic farming, restoration of wetlands, and urban forestry.

One of the most significant biases in ARB's modeling is that it uses a carbon stock assessment to allocate priority to components of the NWL sector. Carbon stocks are one of many ways to decide how to allocate priority and resources within the NWL sector, but an arbitrarily chosen one. CARB suggests that non-urban forests hold the lion's share of the carbon stocks, despite limiting their analysis erroneously on many fronts, including restricting their modeling to soil carbon pools in the top 30 centimeters (cm).² This approach allowed ARB to focus its attention, a priori, on non-urban forests from the outset.

Instead of relying on technical solutions such as CCUS to achieve carbon neutrality, focus on ecological restoration and management strategies that also support ecosystem services and bring co-benefits and jobs to communities. The current model greatly

¹ Stenzel, Jeffrey E. et al., Fixing a snag in carbon emissions estimates from wildfires, 25 *Global Change Biology* 3985 (2019), <https://onlinelibrary.wiley.com/doi/abs/10.1111/gcb.14716> and California Air Resources Board, Technical Support Document for the Natural & Working Lands Inventory, December 2018 Draft, https://ww3.arb.ca.gov/cc/inventory/pubs/nwl_inventory_technical.pdf, at 19 ("The fire-attributed stock changes account only for carbon contained in live and dead pools associated with the post-fire (e.g., 2012) vegetation type, and have no memory of the previous vegetation type, i.e. they do not account for potential post-fire carbon persisting in unburned fuels or in killed trees.")

² Worldwide, an estimated 30%–75% of soil carbon is located below 30 cm [Tautges et al. 2019], and these deeper soil carbon pools play a critical role in carbon accumulation and storage [Dynarski et al. 2020]. Thus, by limiting its analysis to a soil depth of 30 cm, CARB is artificially constraining both the estimated size of existing soil carbon stocks and the magnitude of potential for soils to either lose or accumulate carbon under its NWL scenarios.

undervalues such benefits and their multiplier effects. For the Energy Sector, CARB set a GHG objective and modeled approaches to achieve the goal. Natural and Working Lands scenarios should have set a target for carbon sequestration, then maximized the multiple co-benefit strategies to meet sequestration targets. Such strategies could include: increased organic farming and carbon farming, restoration of wetlands, and urban forestry, all of which have the potential to be scalable, cost-effective carbon sinks. Instead CARB modeled various approaches based on ad hoc strategies. **Although such modeling is useful in providing a semi-quantitative representation of CARB’s assumptions about sources and sinks, it is insufficient to inform the development of a comprehensive scenario.**

Recommendations

The EJAC requests that CARB refine its Scoping Plan through the following:

1. Develop a protocol for updating the plan as new information is gathered and approaches identified, as statute proposes the need to have more frequent climate policy planning.
 - a. AB 32 states that “The state board shall update its plan for achieving the maximum technologically feasible and cost-effective reductions of greenhouse gas emissions at least once every five years.” In this critical decade, California’s climate policy must be adaptive and responsive to the latest science and needs on the ground. This flexibility is particularly important for sectors, such as NWL, that are underdeveloped in the current draft.
2. Ensure free, prior and informed consent of tribal nations. CARB must consult with and fully support a tribal-led process of shaping and informing Natural and Working Lands (NWL) targets, pathways, and actions to be supported by the State of California.³
 - a. Conduct a comprehensive analysis of the tribal and climate justice impacts (positive and negative) of proposed NWL sector targets, scenarios, and pathways currently outlined in the SPU. In addition, this analysis should assess and report on impacts to Tribal and state lands. Such an analysis should be significantly informed by tribal communities and their partners that bring on-the-ground expertise, including traditional ecological knowledge.
 - b. Collaborate with Native Nations (use State’s language [B-10-11] rather than *Native Nations*) for traditional land practices. Prescribed cultural burning as a continuation of traditional land management practices, for example, should be allowed to prevent extreme wildfires. Such collaboration includes rematriation of land to tribal stewardship.
3. Convene an Advisory Committee (including EJAC and other environmental justice representation) to partner with the California Natural Resources Agency

³ Per the Governor’s directives and the State’s Truth and Healing Council.

(CNRA), California Department of Food and Agriculture (CDFA), Department of Conservation (DoC), and other key natural resource agencies to develop NWL targets, pathways, priority actions, and programs. This Committee should focus its attention on significant reshaping of current NWL modeling and development of new analyses to support the recommendations contained herein.

4. Remove any form of Carbon Capture, Use, and Storage (CCUS) or Direct Air Capture (DAC) within the NWL sector, including in any planning, implementation, and GHG accounting frameworks.
5. Increase coordination and interagency consultation with natural resources agencies, including the CNRA, CDFA, CAL FIRE, and other agencies that manage NWL programs.
6. Prioritize the following targets, goals and actions within the revised Scoping Plan:
 - i. Set a target to sequester and reduce GHG emissions by *at least* 30 million metric tons (MMT) of carbon dioxide equivalent per year in the State's agricultural and working lands by 2030 through whole farm conservation planning, carbon farming/regenerative agriculture, organic agriculture, and tribal stewardship and management. Of the 30 MMT target, *at least* 20 MMT should be carbon sequestered per year by 2030⁴.
 - ii. Organic agriculture should make up 30% of the total agricultural acreage by 2030 and 80% by 2045.
 - iii. Reduce synthetic pesticide use by 50% by 2030, and reduce the use of hazardous pesticides (such as organophosphates, fumigants, paraquat, neonicotinoids, and sulfuryl fluoride) by 75% by 2030.
 - iv. Exclude herbicide (and any other pesticide) applications from the Scoping Plan as a climate-friendly management strategy for all land sectors.
 - v. Reduce synthetic nitrogen (N) fertilizer use by 50% by 2030 through increasing N use efficiency and improving the use and distribution of compost, thus significantly reducing a major source of N in ground and surface waters, including drinking water sources, and methane emissions from landfills.
 - vi. Provide annual, ongoing state funding to Tribal governments and/or natural resource organizations, including Tribal Resource Conservation

⁴ Please reference the [linked document summarizing potential to attain the proposed 2030 carbon sequestration target for agricultural and working lands](#). The carbon sequestration target would not count towards meeting statewide 2030 emission reduction goals.

Districts, Resource Conservation Districts, and the University of California Cooperative Extension focused on organic, ecologically focused, climate-smart agriculture and carbon farming. Such efforts should prioritize serving farmers of color, and secondarily on small-to-mid scale farmers (particularly those who have already begun to develop and implement on-farm organic, carbon farming, and multi-practice climate smart agriculture).

- vii. Prioritize the development of local and regional capacity, partnerships, and plans to implement climate-smart NWL actions (with targeted co-benefits) across California, with a focus on investments and capacity building in tribal, environmental justice, and resource-dependent low-to-moderate income communities.
- viii. Support robust expansion of workforce training and high roads employment to support planning, implementation, and adaptive management of California's NWL, with emphasis on tribal, environmental justice, immigrant, and low-to-moderate income communities.
- ix. Significantly increase access to land, finance, and technical assistance to enable land managers of color (including new farmers, ranchers, foresters, and harvesters) and tribal communities to represent a significant component of the State's investments in the NWL sector.
- x. Integrate worker protections and empower workers to shape and lead priority actions within the NWL sector (especially in the agricultural and forestry sectors) more comprehensively in the SPU.
- xi. Projects and actions developed to meet the NWL sector targets, goals, and priority actions shall not create credits for the purposes of market-based compliance mechanisms and shall not be used by a state or private entity to offset a statutory or regulatory obligation to reduce emissions.
- xii. The Scoping Plan should reflect conservation best practices and ensure assumptions align with the state's goal to conserve 30% of public lands by 2030.
- xiii. Work with relevant water and policy agencies to identify co-benefits and impacts to ecosystems for Tribes and communities. For example, do not incentivize the expansion of dairies due to negative water impacts or allow for expansion and continuance of dams and water diversions. Endangered species such as salmon need dams to come down as soon as possible.

- xiv. Consult with CNRA, CAL FIRE, and the Ocean Protection Council to fully understand and represent the sequestration potential of desert, montane, urban forests, and blue carbon ecosystems. For example, while the potential of the Sacramento-San Joaquin Delta is included in the Scoping Plan, the significant and scientifically verifiable carbon sequestered and stored in the State's coastal wetlands is omitted from current modeling.
 - 1. Evaluate and estimate the offshore capacity of healthy aquatic systems to complement terrestrial systems to ecologically sequester carbon without relying on carbon offsets. Acknowledge that Tribes rely on subsistence fishing and harvesting; assess the barriers and opportunities to ecologically sequester carbon and produce a healthy aquatic system and subsistence fishing, including Tribal ecological knowledge.
- xv. Encourage land use planning and development that protects farmland.
- xvi. Evaluate public health and equity outcomes for all NWL management strategies. In addition to carbon, model methane and nitrous oxide emissions from NWL. Model the full life cycle GHG and public health impacts of fumigant pesticides and synthetic fertilizers.