



August 3, 2021

Comments on Public Workshop: 2022 Scoping Plan Update Natural and Working Lands Technical Workshop, July 20, 2021

350 Silicon Valley, representing more than 5000 California residents, is pleased to submit the following comments on the July 20, 2021 Public Workshop: 2022 Scoping Plan Update – Natural and Working Lands Technical Workshop.

Governor Newsom’s Executive Order N-82-20¹ sets forth worthwhile goals, including conservation of 30% of CA lands and ocean by 2030. Translating this aspiration into climate-friendly policies is challenging, in part because there is widespread disagreement about actionable details.

The foremost policy goal must be to increase carbon sequestration and net carbon stocks in natural and working lands. This is best achieved with minimal management that excludes salvage logging, clear cutting, and removal of biomass for incineration. Each policy should be based on science, not tradition.^{2 3}

The following comments provide scientific perspectives on which planning may be based. Some of these plans require close coordination and collaboration with other agencies.

Comments in this document speak to

- General Recommendations
- Agriculture
- Forest Management
- Carbon Offsets from Natural and Working Lands
- Biomass Incineration
- Reservoir Emissions

GENERAL RECOMMENDATIONS

- Set biennial interim targets for increasing net carbon stocks.

¹ [Governor Newsom Launches Innovative Strategies to Use California Land to Fight Climate Change. Conserve Biodiversity and Boost Climate Resilience](#)

² [2020-Sierra-Club-Climate-Resilience-Policy](#)

³ [Nature Based Sequestration - One Key to Solving our Climate Crisis](#)

Three kinds of terrestrial habitats that sequester and store more carbon per acre than other habitats are forests (especially old growth), peat, and wetlands. Each of these also emits methane due to decomposition. Emissions are highest in tropical climates with high humidity and precipitation. Forests have the highest ratio of carbon sequestration to methane emission, and thus are the most efficient carbon sinks.

- Conduct cost/benefit analyses of policy options, specifically including the Social Cost of Carbon, air quality, decarbonization of our economy, attenuation of climate change, and ecosystem benefits.
- Review CEQA Section 15064.4, Determining the Significance of Greenhouse Gas Emissions, to determine whether the law should be amended to include protections for the carbon sequestration potential of projects.
- Consider placing a moratorium on development that destroys habitats with high sequestration potential.
- In collaboration with CalGEM, halt permitting for unconventional oil and gas extraction technologies that alter the integrity of natural and working lands, that are water-intensive, or that may affect groundwater quality.⁴
- Actively oppose the California Independent Petroleum Association's proposal to remove water quality protections for groundwater in much of western Kern County, described in a memo as part of the Central Valley Regional Water Quality Control Board's amendment process for the Central Valley Salinity Alternatives for Long-Term Sustainability [program](#).

Please see legislation introduced in CA Legislature and Congress for policy options. Consider the provisions of [AB 284](#) and [SB 27](#) re: natural and working lands.

AGRICULTURE

The Scoping Plan should identify a suite of agricultural practices that will work together to sequester carbon and promote regenerative agriculture, beginning with no-till farming techniques and integrated pest management.

- Work with the Legislature to impose environmental impact taxes on carbon-intensive crops and farming practices, as well as CAFOs.
- Consider these Congressional bills re: agriculture

[H.R.5861](#)

[H.R.6718](#)

[H.R.6182](#)

[H.R.2803](#)

⁴ [CALIFORNIA OIL AND GAS WASTE REPORT The failure to safely manage oil and gas waste](#)

FOREST MANAGEMENT

Preserving, protecting, and improving the health of California's forests is essential to our work to limit climate change. Due to extractive industry operations, mismanaged carbon offset schemes, excessive logging, wildfire, arson, and forest management with torches and chainsaws, both the Amazon rainforest and Boreal Forest in Canada have become net carbon emitters instead of sinks. We must aim to prevent this in California.

Forests managed passively, i.e., via proforestation, sequester and store more carbon than forests which are actively managed. This is true even for forests that have reached old-growth maturity.^{5 6}

In addition, forests significantly decrease local atmospheric levels of toxins emitted from the combustion of fossil fuels. Some of these toxins exacerbate greenhouse gas emissions, e.g., fine particulates from combustion are primarily carbon and are black, absorbing solar heat. Established urban trees have been shown to decrease nitrogen oxides, ozone, sulphur oxides, carbon monoxide, and fine particulates in ambient air. Urban trees significantly decreased both premature deaths and medical costs.⁷

An acre of logged forest is not quickly replaced by planting an acre of seedlings. Young trees need to grow for many years to reach the sum of biomass in a logged acre. In the case of logging an acre in a 50-year-old plantation, it would take 50 years of growth of new seedlings on that acre to reach an amount of biomass and stored carbon equal to that removed. Timber companies typically use a 40-year rotation schedule for each harvest. For the initial 15 years after a clearcut harvest, carbon emissions from logging exceed sequestration by the seedlings. And less than half of the carbon removed is stored in lumber products.

Recommendations:

- Old growth forests on our public lands should be mapped, and subsequently surrounded by buffer zones at least a half mile wide, consisting of less mature forests. These areas should be managed passively, i.e., by letting nature take its course—a.k.a. process conservation and proforestation. Over decades, the buffer zones will approach the quality of old growth forests. Extractive resource operations, livestock grazing, and construction of new roads should be prohibited on these lands. Damaging activities such as off-road vehicle or snowmobile use, hunting, and vehicle-based camping outside of campsites should also be prohibited in order to permit the buffer zones to heal and contribute to carbon sequestration.
- CARB should provide incentives and guidelines for individuals and investors to divest from forest-destroying companies, and reinvest in companies that engage in forest-friendly practices. An example of the latter would be timber firms that follow Forest Stewardship Council guidelines and long harvest rotations. Similar incentives for

⁵ [Carbon Policy for Forests, Wild Areas, and Other Lands](#)

⁶ [Attribution of net carbon change by disturbance type across forest lands of the conterminous United States](#)

⁷ [Air pollution removal by urban forests in Canada and its effect on air quality and human health](#)

government entities (municipalities, pension funds, schools, and counties) are needed to fund forest preservation. Legislation may be required to mandate divestment.

- CARB should request that the Treasurer issue green bonds to fund publicly owned projects that improve forest quality, and net forestation that increases net carbon stocks.
- Discontinue state subsidies for logging.
- Half of the hardwood harvested in the U.S. is used to construct shipping pallets. Half of these are discarded after one use. Incentivize reuse or replacement with recycled plastic pallets in order to preserve more forest acreage.
- California's forests have long been manipulated for human benefit and profit: by decades of fire suppression, clearcutting and replanting with monocultural forests, and encroaching development. Please conduct rigorous cost-benefit analysis of wildfire prevention approaches including prescribed burns and mechanical removal of forest litter and underbrush—both of which emit carbon over different time periods.⁸
- Methods of protecting development from wildfire are well known: a) decelerate climate change, b) harden electric transmission lines or install lines underground, c) establish a 100 foot buffer zone that is free from vegetation at the urban-wildland interface, d) prohibit development in areas of high wildfire risk, e) prohibit cook-fires, use of fireplaces, and open pile burning - especially during the extended fire season, f) install mesh screens over vents, g) remove fallen leaves and branches from rooftops and yards, and h) trim trees overhanging roads.
- Managing forest health
 - Post-fire salvage logging has not been proven to decrease risk of wildfire or increase carbon stocks. The Sierra Club recommends Exclusion of Commercial Logging (ECL) on public lands.
 - Clear-cutting is the most destructive method of logging and should be banned statewide.
 - Commercial loggers prefer a short harvest schedule for tree plantations, averaging about 40 years. We suggest you lengthen the timber harvest cycle to a minimum of 80 years, and establish a schedule of fines for harvesting in less than 80 years.
 - Set an annual quota on logging by limiting the total acreage of timber harvest permits (THP). If carbon stocks are not increasing, decrease the THP quota.
 - Establish an import policy to prohibit government purchase of products that are produced via deforestation.

⁸ [Scientific Research: The John Muir Project](#)

CARBON OFFSETS FROM NATURAL AND WORKING LANDS

Offset programs do not decrease toxic emissions from industry, fossil fuel production, or fossil fuel combustion. The price of offset credits in California is too low to increase energy prices enough to curtail demand and emissions—which should be the purpose of Cap and Trade program. **The current Scoping Plan update is our best opportunity to revise Cap and Trade and make the program work for our state.**

- Raise fees to at least the Social Cost of Carbon (using the revised price to be proposed by the Biden Administration).
- Require that only California lands are eligible for California offset programs should improve program efficacy.
- Replace offset schemes and carbon-trading with conservation easements and designation of new wilderness areas governed by the Roadless Rule.
- Standards to define effective offset programs are needed on a global scale. California should support and subscribe to a global inventory of tracts of land for which credits have been purchased.

BIOMASS INCINERATION

Globally we harvest more trees and fallen biomass than we are planting or growing by deferred logging. In the USA, we harvest twice the amount that is added by new growth each year. Harvesting biomass contributes to this deforestation and decreases the ecosystem services of forests.

Incineration of biomass for electricity generation emits a quantity of GHGs (including hazardous co-pollutants) that is up to 50 percent greater than the amount emitted from burning coal. Biomass electricity generation releases 350 percent more GHGs than natural gas (70 - 90 percent methane).⁹ The combustion of biofuels, e.g., for transportation, also immediately releases GHG and toxic emissions—and is inefficient compared to zero-emission battery electric power and renewable hydrogen fuel cells.

- In California, there are about 30 biomass incineration facilities. These are 30–40 years old, inefficient, and heavily subsidized. They are not cost-competitive with renewable energy generation. They emit tons of GHGs and toxic air pollutants. They should be shuttered and the land used for conservation or more climate-friendly kinds of buildings.
- Burning biomass for generation of electricity and production of biofuels should be banned, as biomass incineration is a source of emissions that can easily be eliminated.
- Use biomass as mulch, compost, and lumber.
- Use biomass and non-wood botanicals, HempWood, and PCR for paper.

⁹ [Partnership for Policy Integrity](#)

RESERVOIR EMISSIONS

CARB's NWL carbon inventory includes methane (CH₄) emissions from wetlands, but it is unclear whether GHG emissions from man-made reservoirs will be considered. Flooding large stocks of terrestrial organic matter may result in microbial decomposition of biomass both above and below ground, and the release of CO₂, CH₄, N₂O. Deemer et al. estimate that globally, "CH₄ emissions from reservoir water surfaces [are] comparable to those from rice paddies or from biomass burning."¹⁰ At the upper end of estimates, global reservoir CH₄ emissions values are of the same order of magnitude as CH₄ emissions from wetlands. Reservoir emissions of CO₂ are smaller but not insignificant. As California has over 1300 man-made reservoirs, carbon emissions from this source are likely significant and should be included in CARB's inventory.

Thank you for the opportunity to comment on these important topics.

Janet Cox

Legislation Director

350 Silicon Valley

¹⁰ Deemer, B.R ; Harrison, J.A ; Li, S ; Beaulieu, J.J ; Delsontro, T ; Barros, N ; Bezerra-Neto, J.F ; Powers, S.M ; Dos Santos, M.A ; Vonk, J.A. "Greenhouse Gas Emissions from Reservoir Water Surfaces: A New Global Synthesis." *Bioscience* 66.11 (2016): 949–964