SENATE COMMITTEE ON ENVIRONMENTAL QUALITY
Senator Allen, Chair
2021 - 2022 Regular

Bill No:	AB 2101		
Author:	Flora		
Version:	4/5/2022	**Hearing Date:**	6/16/2022
Urgency:	No	**Fiscal:**	Yes
Consultant:	Evan Goldberg		

SUBJECT: California Carbon Sequestration and Climate Resiliency Project Registry: whole orchard recycling projects

DIGEST: Adds "whole orchard recycling" (WOR) to the list of carbon sequestration projects that may be listed on the Carbon Sequestration and Climate Resilience Project Registry (Registry) established by SB 27 (Skinner, Chapter 237, Statutes of 2021).

ANALYSIS:

Existing law:

1) Requires the California Natural Resources Agency (CNRA), by July 1, 2023, to establish the Registry to maintain a list of eligible but unfunded projects, which may be funded by public or private entities for voluntary mitigation of greenhouse gas (GHG) emissions. (Health and Safety Code (HSC) § 39740.3)

2) Allows CNRA to create an application process for entities to have their projects listed on the Registry. All projects must meet a certain minimum criteria and include documentation about the project's location, benefits, and more. (HSC § 39740.5)

3) Authorizes projects to include natural and working lands-based carbon sequestration projects and direct air capture projects. (HSC § 39740.3)

4) Defines "natural and working lands-based carbon sequestration" as sustainable resource management practices, changes in land use, preservation of natural resources, fuel reduction or prescribed fire activities, and other practices that result in the long-term removal, capture, or sequestration of carbon dioxide from the atmosphere to slow or reverse atmospheric carbon dioxide pollution and to mitigate or reverse global warming. (HSC § 39740.1)

This bill:

1) Adds WOR to the list of carbon sequestration projects that may be listed on the Registry and be eligible to receive funding.

2) Defines WOR as the onsite grinding or chipping of whole trees during orchard removal, and incorporation of the ground or chipped biomass into the topsoil prior to replanting.

Background

1) *Scoping Plan Updates.* In 2006, the Legislature passed the California Global Warming Solutions Act of 2006, AB 32 (Nunez, Chapter 488, Statutes of 2006) to create a comprehensive, multi-year program to reduce GHG emissions in California. AB 32 requires the California Air Resources Board (ARB) to develop a Scoping Plan describing the approach California will take to reduce GHGs to achieve the goal of reducing emissions to 1990 levels by 2020. The Scoping Plan was first approved by the ARB in 2008 and must be updated at least every five years.

   In the 2013 scoping plan update, ARB included sections on natural and working lands (NWL) and agriculture, and put forth recommended actions related to NWL. The 2017 scoping plan update further emphasized the importance of NWL stating "California's climate objective for NWLs is to maintain them as a carbon sink (i.e., net zero or negative GHG emissions) and, where appropriate, minimize the net GHG and black carbon emissions associated with management, biomass utilization, and wildfire events." The plan also directed the state to quantify carbon impacts of climate intervention activities on NWL and to identify potential regulatory mechanisms. It also proposed a GHG emission reduction goal of 15 million to 20 million metric tons by 2030. The ARB has also produced a NWL Inventory to quantify the existing state of ecosystem carbon stored in the state's land base.

   The 2017 scoping plan directed CNRA, the California Department of Food and Agriculture (CDFA), CalEPA, and ARB to complete a NWL Climate Change Implementation Plan to evaluate implementation scenarios and develop long-term sequestration goals. The plan aims to coordinate all NWL programs under a united approach that will move the state toward the goal of maintaining resilient carbon sinks while improving air and water quality, wildlife habitat, recreation, and other benefits. Although the plan does not specifically set an emissions reduction or carbon sequestration goal for

NWL, it establishes a set of goals for the implementation of land activities that will lead to carbon benefits:

> "To realize a long-term objective of resilient land-based carbon, the state must more than double the pace and scale of state-supported land activities by 2030 and beyond. The state will, at the least, strive to increase fivefold the acres of cultivated lands and rangelands under state-funded soil conservation practices, double the rate of state-funded forest management or restoration efforts, triple the rate of state-funded oak woodland and riparian restoration, and double the rate of state-funded wetland and seagrass restoration through 2030."

The plan projects this effort will result in cumulative emissions reductions of -36.6 to -11.7 million metric tons of carbon by 2045. In the shorter term, some of the activities referenced in the plan will cause emissions (e.g., forest fuel reductions) but will have long-term climate benefits. The plan is meant to produce benefits for water quality and quantity, air quality, biodiversity and habitat and ecosystem health, food and fiber production, public health, and resilience to climate change. The plan states relevant agencies will collaborate to begin implementation through existing conservation, management, and restoration programs and new efforts, as needed. Implementation will include the organization of existing, and initiation of additional, state-funded activities on both private and public lands.

The ARB intends to fold the NWL plan into the 2022 update to the scoping plan, which will focus on achieving carbon neutrality by 2045.

2) *WOR, What Is It Good For? Apparently, Much More Than Absolutely Nothing.* WOR is a practice that includes the chipping of woody perennial crops at the end of their agronomic lifecycle and then using those wood chips in the soil of the fields where the trees previously stood, allowing for the prior trees to be recycled into future crops. Models have predicted a range of 4.24 metric tons of carbon dioxide (CO2) sequestration per hectare for 14 tons of dry wood chips per acre in prune crops with a life cycle of 10-15 years, and 8.16 tons for 30 tons of wood chips from almond crops with an estimated life cycle of 25 years. This allows for crops to secure carbon dioxide from reentering into the atmosphere, which mitigates negative climate impacts.

Comments

1) *Purpose of Bill.* According to the author, "AB 2101 will pave the path for WOR projects to be eligible to receive the credits necessary to ensure it is a viable model for sequestering carbon while avoiding burdensome costs.

   "AB 2101 will ensure that WOR projects are acknowledged for their carbon sequestration, and their importance in helping the state reach its GHG reduction goals."

2) *Belt & Suspenders.* According to the CNRA, WOR is already expected to be eligible to receive funding under the Registry. By statutorily adding it to the registry's list of projects that may be considered for funding, as this bill does, the Legislature would ensure that WOR projects are considered by the CNRA.

DOUBLE REFERRAL:

This measure is scheduled to be heard in Senate Natural Resources & Water Committee on June 14, 2022.

Related/Prior Legislation

SOURCE: Author

SUPPORT:

American Pistachio Growers
Western Agricultural Processors Association

OPPOSITION:

None received

ARGUMENTS IN SUPPORT: The American Pistachio Growers and Western Agricultural Processors Association (WAPA) write, "There are over two million acres of commercial nuts in production in California. The bulk of commercial production is located in the Central Valley and Northern California. One challenge facing the industry is the removal old orchards once they are no longer productive.

"The California Climate Action Registry was created by the State of California to promote and protect businesses' early actions to manage and reduce their greenhouse gas emissions. WOR is the on-site grinding or chipping of whole trees during orchard removal, and incorporation of the ground or chipped biomass into

the topsoil prior to replanting. Currently, WOR projects are not eligible for state funding despite their environmental benefits. As a result, the agricultural sector is not able to enjoy the same benefits of carbon sequestration available to other industries in California."

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