SIERRA PACIFIC INDUSTRIES

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August 3, 2021

Liane M. Randolph, Chair
California Air Resources Board
1001 "I" Street
Sacramento, CA 95814

RE: Natural and Working Lands Proposed 2030 Target Scoping Plan

Dear Chair Randolph and Board Members:

This letter is submitted to provide the California Air Resources Board additional information on Sierra Pacific Industries and its objectives for its forest lands, which are natural working lands in every sense of the words.

Company Profile

Sierra Pacific Industries (SPI) is a family owned vertically integrated timber products company. SPI owns 2.1 million acres of timberland, approximately 1.8 million acres in California and 300,000 acres in Washington State. In California, SPI operates 10 sawmills and five cogeneration power plants, along with other manufacturing facilities. The company is the second largest lumber producer in the United States, producing everything from timbers and framing lumber to fencing and specialty products. SPI employs about 3,500 people in California.

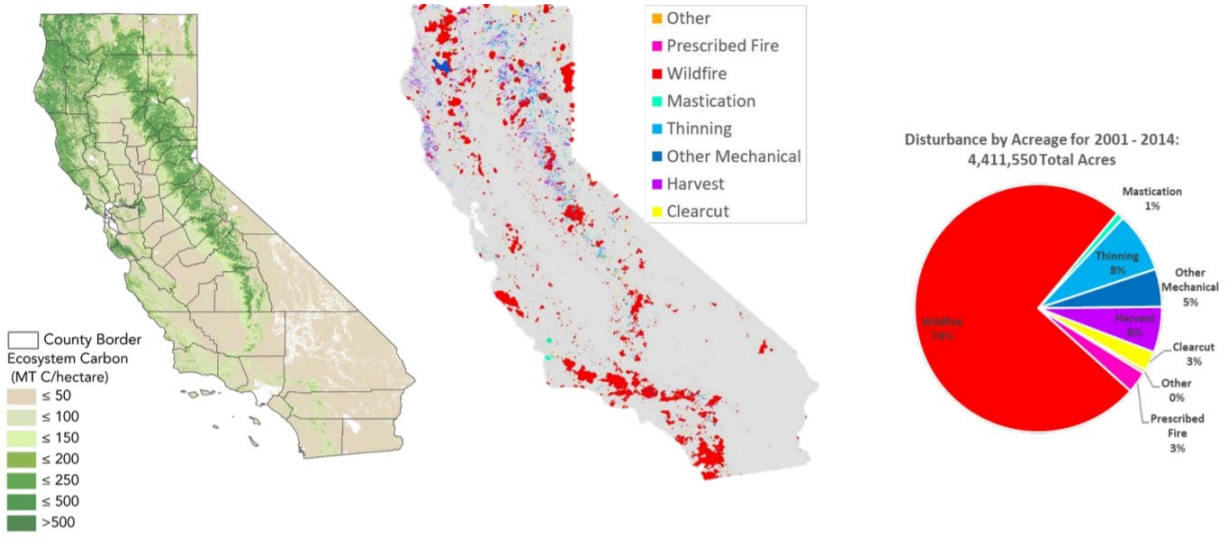
SPI Natural and Working Lands Comments

SPI is supportive of the 2030 goal established in the Natural and Working Lands Implementation Plan to focus specifically on a suite of State-supported land management, restoration, and conservation activities that can be pursued now to help increase the scope and scale of these lands' contribution to climate change mitigation. In particular, Sierra Pacific Industries recommends the focus of the Natural and Working Lands implementation efforts be directed toward public and non-industrial private lands, which do not have the resources, capacity, and/or the holistic forest management plans in place that industrial forest owners have.

Financial and Permit Support

The Air Resources Board (Board) should financially support forestry plans that contribute to climate mitigation including:

1) Projects that thin public and non-industrial forests to a structural condition that allows them to be resistant to drought and fire. Such thinning projects are a critical proactive action to improve forest health and resilience and minimize forest emissions of GHG and black carbon during wildfire. In order to effectuate additional pace and scale of forest thinning on public and non-industrial forests, and reverse the devastating trend of increasing forest fire emissions, the financial support should be directed to multi-agency cross-jurisdictional collaboration groups that are planning and implementing projects at the landscape level. Treatment of entire landscapes will be critical to helping move the forest sector closer to becoming a resilient carbon sink. The Tahoe-Central Sierra Initiative and the Yosemite Stanislaus Solutions are good models of collaboratives that should be replicated across all the forested region of California.



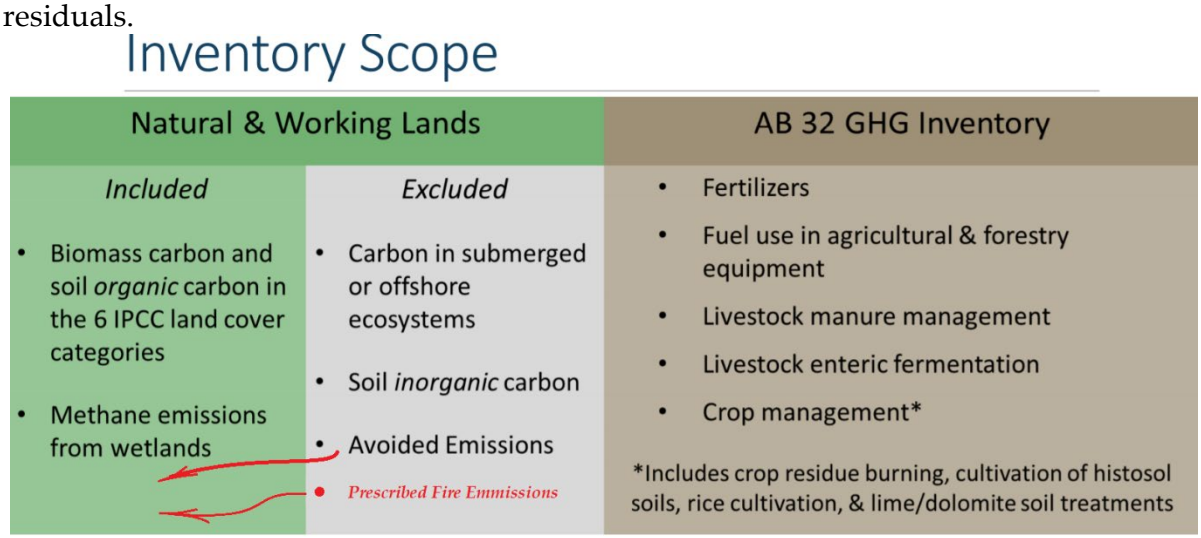
2) Reforestation projects on public and non-industrial private forests damaged by high intensity fire or drought. Reforestation will increase the capacity of those forest lands to sequester and storage carbon. Forests have a much higher capacity to sequester carbon than shrubland. Preventing forest burned at high intensity from converting to brush due to a lack of a reforestation effort will be an important strategy to mitigate climate change.

3) CARB should support both financially and during permit processing the development of innovative uses for low value wood residuals. Specifically, CARB should support the development of industrial scale gasification and pyrolysis refineries, and engineered wood product manufacturing facilities. Utilizing the low-grade wood waste as a renewable fuel or engineered building material is a disposal pathway that can maximize positive climate outcomes since those refined fuels can displace liquid or gaseous fossil fuels, provide a means of recovering some of the costs of the treatments,

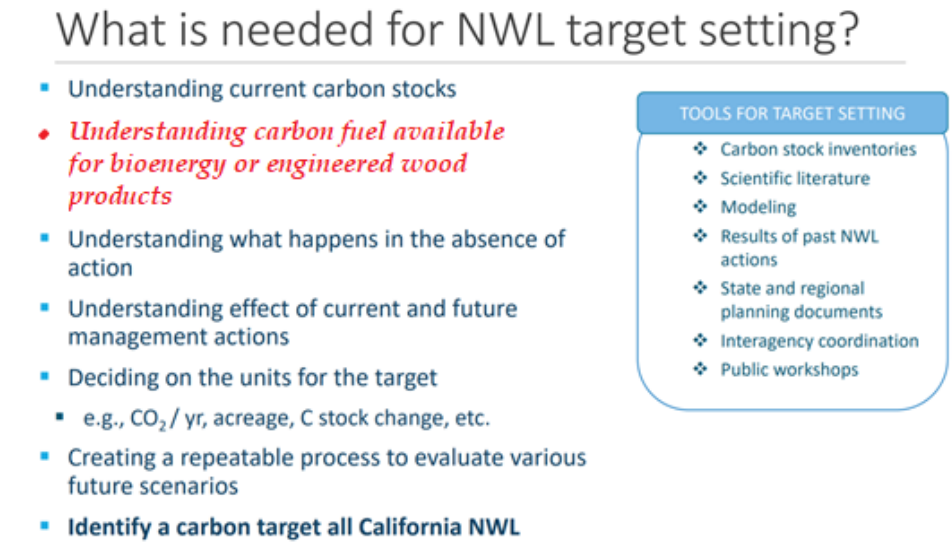
and has a better emissions profile than any type of open burning. Having industrial infrastructure to utilize/dispose the low value wood residuals from forest health/resiliency projects will allow for climate outcomes to be maximized. CARB must not ignore black carbon emissions from wildfire or prescribed fire when analyzing the policy choices regarding the disposal of low-grade wood waste.

Mechanical treatments to support a growing bioeconomy

The innovative disposal of low-grade wood from forest health and resiliency projects through its utilization as fuel for gasification and pyrolysis refineries, and engineered wood products will require mechanical harvesting and transportation of that woody material. While some stakeholders want to emphasize prescribed fire instead of mechanical treatments the choice between these alternatives is not mutually exclusive, but the basis for where and how much prescribed fire is appropriate must be founded on accurate and holistic carbon emissions accounting. What CARB needs is to accurately distinguish the climate impacts of prescribed fire and wildfire emissions from treated and untreated forests compared to emissions from utilizing that material as an innovative biofuel or engineered wood product, including the health effects of smoke from prescribed fire and/or the potential reduction in emissions (avoided) from mechanically treated lands during wildfire. Otherwise, the emissions impacts of prescribed fire will not be accounted for adequately even while their impact is real and detrimental to public health and nor will the reduction in emissions be accounted for from mechanically treated lands that are burned during a wildfire. There is a calculable amount of potential wildfire fuel that gets removed during a mechanical treatment and that needs to be accounted for. An analysis that takes into account the health effects of prescribed fire smoke and avoided emissions will not cause the prohibition of prescribed fire but it will help policy makers understand the actual emissions tradeoffs (including health effects) between these disposal pathways for low grade wood residuals.



Where mechanical treatments can be utilized additional benefits can be attained for watershed, wildlife, and recreational resources. By virtue of those activities being mechanically implemented and the woody residuals recovered, these activities can be planned and implemented to increase sequestration (tree growth) and offset carbon emissions (bioenergy), reduce air pollution (black carbon from prescribed and uncontrolled wildfire emissions), limit liability (fire risk associated with prescribed fire), secure vegetation structural components and composition that align with broader landscape level wildlife habitat needs without the risk of losing those forest structural and composition elements due to a prescribed (Caples 2019) or managed fire (Tamarack 2021) being too hot. An accurate and holistic analysis of these disposal pathways is what is needed for NWL target setting, since that kind of analysis will highlight the opportunities available from utilization of low value wood residuals from forest health and resiliency projects.



Furthermore, the forest area available to use mechanical harvesting to collect low-grade wood waste that can be disposed of in gasification and pyrolysis refineries, and engineered wood products needs to be reanalyzed so that the magnitude of this potential economic resource is accurately estimated. The modeling of where mechanical harvesting can occur appropriately uses constraints relating to access, soil productivity, harvesting technology, and administrative designations (wilderness, roadless areas, etc.) that could make those operations infeasible. The existing estimates of the forest area available however use a topographic constraint of 40%, which does not account for tethered harvesters that can easily access slopes up to 70% when cutting small trees and carrying them to an access road. CARB needs to reanalyze the forest land available for mechanical treatments such that it reflects the capabilities of tethered mechanical harvesters. This reanalysis will provide a more accurate volume estimate of low-grade wood available to support gasification and pyrolysis refineries, and engineered wood products. Then a scenario that maximizes mechanical harvesting of

low-grade wood waste can be demonstrated and compared against disposing of that same volume of wood using prescribed fire.

Prescribed fire treatments

Where harvesting technology, vegetation type, soil productivity and administrative authorities do not align to support mechanical harvesting, then there must be an increased utilization of prescribed fire on the California landscape. Prescribed fire will play an important role in abating high intensity wildfire, but it should not be over emphasized. Using prescribed fire to reduce the negative effects of catastrophic fire is an important tool where mechanical treatments are infeasible or where prescribed fire is introduced to produce a desired ecological response in combination with a mechanical treatment.

The biggest shortcoming of using prescribed fire is that no raw material outputs are generated except for harmful emissions and, prescribed fire has a fairly high degree of uncertainty regarding how many acres can be treated in a year and whether the objectives of the burn will be met. The "value" created by using prescribed fire is watershed security (reducing future fire behavior and thus protecting water quality) and hopefully a reduction in future fire suppression costs. Both of these outcomes however have a fairly high degree of uncertainty because the success of a prescribed burn relies heavily on the weather to achieve the desired fire behavior and intensity. If the fire is too hot it will remove too much vegetative cover and increase levels of sedimentation, trees expected to sequester carbon will be killed, and potentially an escape will cause unintended loss of property not associated with the project. A prescribed fire that is too cool will not reduce the fuel loading and/or stand density sufficiently and the desired effect of watershed security and reducing future fire suppression costs will not be realized.

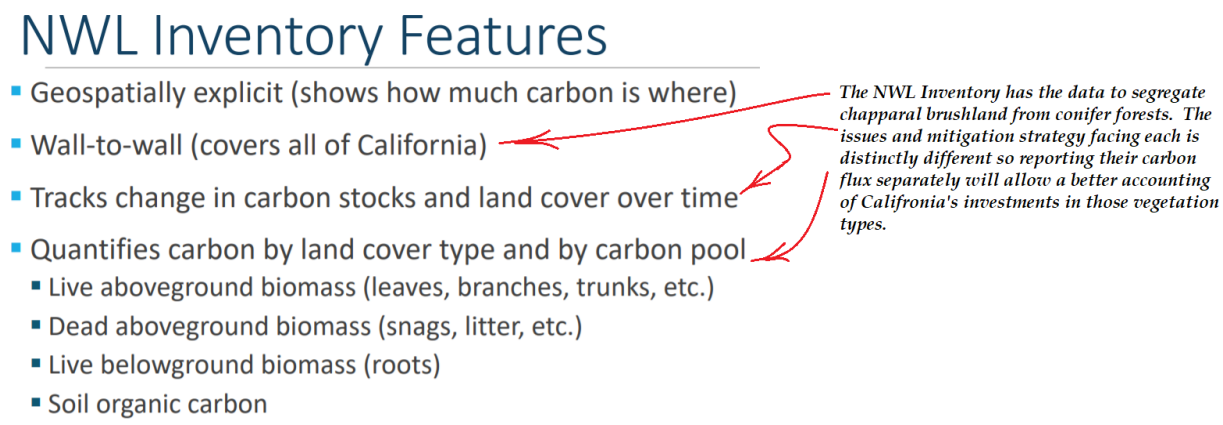
These uncertainties in outcomes are controllable where mechanical harvesting is conducted. Mechanical forest harvesting allows professional foresters to plan for and control post-project stand conditions including tree species, spacing, composition, size, frequency, distribution and fuel loading and the timing for the number of acres treated. Long-term plans that utilize sustainable forestry practices and mechanical forest harvesting can provide reliable estimates of the volume of wood products over time, which is essential for business to make investments in manufacturing infrastructure. Mechanical treatments that create usable wood products therefore have a "multiplier" effect; that simultaneously creates the desired forest structural condition that improves forest resilience to moderate and high-severity wildfire (a.k.a watershed security), supports forest product infrastructure and jobs, sequesters carbon in wood products, and can create a renewable bioenergy feedstock that offsets fossil fuel use and reduces harmful emissions.

These multiplier effects are why mechanical treatments that generate wood products are the best method for reducing tree density and containing costs. Mechanical treatments should be emphasized where technology, vegetation type, soil productivity

and administrative authorities align to allow for mechanical removal and utilization of vegetation biomass.

Forest and Shrubland

It is not appropriate to lump the carbon flux of shrubland and conifer forests together because it will mislead policy makers and the public. Shrublands are distinct ecologically, can be easily identified using remote sensing, and their expected contribution to the carbon flux and carbon pathways/pools are much different than conifer forests. For example, chapparal shrubland would be expected to burn at high intensity every 15-30 years, whereas a healthy and resilient Klamath or Sierran mixed conifer forests would not be expected to burn at high intensity, at least not at scales generally larger than 50-2,500 acres, in hundreds of years. Shrubland chapparal evolved to burn at high intensity. Burning at high intensity ensures its persistence as the dominant vegetation type because high intensity fire kills invading conifer tree species. Because chaparral shrubland burns frequently at high intensity it cannot be expected to amass any meaningful above ground carbon that has any substantial permeance. Forests on the other hand historically evolved under frequent generally low and moderate intensity fires, with small scale high intensity fire interspersed. This fire regime enabled conifer trees to become dominant, persist and store substantial above ground carbon.



Lumping forests with shrublands confuses how well those vegetation classes are performing relative to their capacity to store carbon. Including shrubland with conifer forests will reduce the reported contribution of forests because shrubland is not adapted to store significant quantities of above ground carbon over long periods of time. Alternatively, including forests with shrublands will obscure the emissions of shrublands due to forests general capacity to increase their carbon stores.

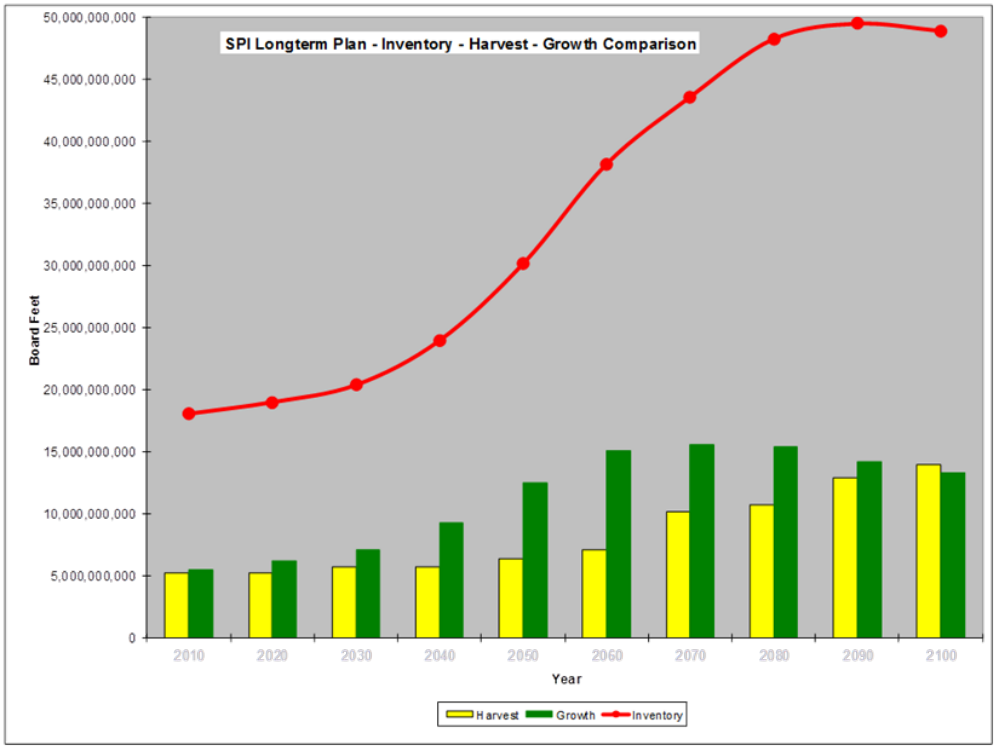
The National Forests alone contain 6 million of the total 9 million acres of highly volatile brushland in California, which are mainly found in the foothills. These shrubland areas are being converted to an urban land use as cities continue their expansion. Addressing

the conversion of shrubland is distinctly different problem to solve than treating fuels in forests so they do not burn at high intensity. Separating these land classes is technically feasible and will help bring to focus the different threats and actions needed to mitigate climate impacts to these distinctly different vegetation types. Segregating these vegetation types will also help track accurately the return on investments made by California to help improve the natural and working lands contribution to increasing the carbon stored in forests, solid wood products, and made available as innovative renewable fuels and engineered wood products. It will also clearly indicate the emissions caused by converting chapparal shrubland to an urban land use.

Sustainable Forestry

The messaging from the NWL program continues to mislead the public relating to sustainable forest management. The piece of messaging that is misleading is the suggestion that less intensive forest management exclusively, is the best method to optimize climate benefits from forests. Less intensive management in many instances will be the best approach, but it is not exclusively the best approach on all ownerships. We agree that on public and non-industrial private lands less intensive forest management is "best" because doing less intensive management is a substantial step forward from not doing any management and leaving the forest overgrown and susceptible to drought and fire.

On an annual basis, Sierra Pacific Industries has carefully calculated the rates of sequestration for our timberlands, as well as for the emissions from individual harvest plans. After accounting for logging, hauling, milling, and product emissions from all our annual timber harvest projects, our forests still sequester 20 times those emissions every year. Sierra Pacific Industries intensive sustainable forestry practices will result in the forestland sequestering three times the amount of carbon over the next 100 years as compared to a custodial (less intensive) management approach. This substantial increase in sequestration however requires significant monetary investments in establishing and managing tree densities. Our sustainable forestry practices will result in the modal diameter of volume by diameter class to increase from 18 inches to 32 inches. These larger trees will be widely spaced and, due to their size, stand structure and landscape distribution, will have increased fire resilience.



Sierra Pacific Industries manages its forestlands in a holistic manner in compliance with the California Forest Practice rules, Porter Cologne Water Quality Control Act, the California Endangered Species Act, the Endangered Species Act and all other applicable laws. The graph is from SPI's California Department of Forestry and Fire Protection approved Option A demonstration of Maximum Sustained Production of High-Quality Timber Products. This plan was approved in 1999 and was reviewed by CAL FIRE for correctness in 2014 and 2019. The trajectory for standing inventory, growth and harvest are based on over 450,000 forest inventory plots across the SPI ownership. These values are based on real measurements on real trees, not simulated data generated from associating geospatial satellite reflectance data with FIA plot data collected at 1 plot per 6,000 acres (FIA plot grid density). Conifer trees are approximately ½ carbon by weight. Therefore, the increase in standing inventory of trees is directly correlated to increases in carbon in those forests. SPI forests are projected to grow exponentially during the next 40 years before flattening off at a growth rate that is twice the level of sequestration that is occurring currently. CARB must recognize and accommodate holistic forest management practices and accurately account for their contribution to reducing atmospheric carbon.

What is misleading is to suggest that less intensive forestry by all landowners will lead to higher carbon storage in the long term or meet the wood demands for California. California continues to import 80% of its wood products. Intensive forest management, carefully planned and implemented over the long term has been demonstrated as supportive of biodiversity (including and water quality, floristic and animal diversity, including threatened and endangered species). Intensive forest management will yield

a higher quantity of high value wood products that pay their way into the market place and are not a drag on the scarce public money needed for conservation and subsidizing fuel treatments on public, non-industrial, and marginally productive forestland.

Sierra Pacific Industries would suggest that for accuracy and to not mislead the public, when referencing forestry as a "climate solution" the CARB should rephrase its previous statement to read, "less intensive ~~forest management~~ **and** holistically planned intensive forest management" instead of only stating "less intensive". The climate contribution of forests will require an inclusive approach from all forest landowners, which conduct intensive and less intensive forest management. The full suite of forest management options must be available to forest landowners in order for California to meet its climate goals and grow its bio-economy.

Sierra Pacific Industries Management Objectives

During the Natural Working Lands webinar on July 9, 2021, the staff of ARB requested stakeholders provide their management objectives in order to help inform the natural and working lands modeling and thus the establishment of a carbon target. It is unclear what that means to a business such as Sierra Pacific Industries, which manages its forestlands in a holistic manner and in compliance with the California Forest Practice rules, Porter Cologne Water Quality Control Act, the California Endangered Species Act, the Endangered Species Act and all other applicable laws. Some clarification as to how our objectives interplay with the establishment of a baseline would be appreciated. Is CARB going to be respectful of our objectives or is CARB simply conducting a "listening session" and then develop a larger command and control regulatory program to meet its arrived upon carbon target irrespective of landowner's objectives? Sierra Pacific Industries hopes it's the former, where our exemplary forest management practices and their outputs are accurately incorporated into the model.

SPIs' management objective for its entire ownership is to provide an adequate, stable, predictable, and cost-effective supply of raw materials for a variety of forest products. This objective will be accomplished while managing for the long-term health and diversity of the forest lands, including provisions for the habitat needs of fish and wildlife species which occur, or potentially occur, on our forest lands.

Sierra Pacific Industries used the following guiding principles to aid in our land management decisions:

1)SPI's overall management objective of providing for a stable, predictable and cost-effective supply of raw materials for a variety of forest products will primarily determine future landscape conditions.

2) SPI recognizes that, in order to achieve this overall management objective, the Company must create and maintain healthy and productive forest conditions capable of providing moderate to high levels of other forest values.

3) Disturbance is an inherent and required component of California forest stands and landscapes.

4) Forest management activities can be conducted in a manner that approximate the stand density conditions of pre-European forest disturbance regimes.

5) There are very few existing forest stands or landscapes from which we might study how forests looked and functioned prior to European management influences. In addition, forest stands and landscapes that existed prior to these influences did not meet today's needs for wood products.

6) Landscapes and stands that are capable of supporting a wide range of vertebrate wildlife species, including both species thought to be "at risk" and species thought "to benefit" from forest management activities, are key elements of what is termed a healthy forest.

7) A management program that combines research and monitoring, with effective management adaptation, in order to first describe and create the stand and landscape conditions of a healthy and productive forest, over both the short and long-term.

Conclusion

SPI requests that the Natural and Working Lands relating to California forests support funding for public and non-industrial owners to proactively reduce the density of green forests with the objective of reducing tree mortality in those forests due to drought and wildfire, maximize the use of mechanical treatments so that byproducts from those projects can support a growing bio-economy, and support the reforestation of public and non-industrial forests damaged by high intensity fire to prevent the conversion of those forests to shrubland. This funding will help California reach its goal of 1,000,000 acres of forests treated annually and should provide substantial climate (stored carbon, renewable energy), air quality (less black carbon emissions) and watershed (water quality, hydro-infrastructure protection) co-benefits.

Regarding our operations Sierra Pacific Industries is fully capable of implementing its Option A Demonstration of Maximum Sustained Production, which will provide substantial climate benefits, help meet the State's lumber demands, and create and maintain thousands of living wage jobs. All of our forestry operations are highly regulated under the California Forest Practice Rules, which are promulgated by the Board of Forestry and administered by CAL FIRE as the lead agency. Responsible

agencies include the Regional Water Quality Control Boards and California Department of Fish and Wildlife.

Sierra Pacific Industries requests that CARB not engage in rule making that attempts to usurp the authority of the California Board of Forestry.

Sincerely,

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