



# Air Resources Board



**Matthew Rodriguez**  
Secretary for  
Environmental Protection

**Mary D. Nichols, Chair**  
1001 I Street • P.O. Box 2815  
Sacramento, California 95812 • [www.arb.ca.gov](http://www.arb.ca.gov)

**Edmund G. Brown Jr.**  
Governor

TO: Helge Eng  
Deputy Director  
Resource Management  
CAL FIRE  
1416 9th Street  
Sacramento, California 94244

FROM: Cynthia Marvin, Chief  
Transportation and Toxics Division

DATE: September 16, 2016

SUBJECT: GREENHOUSE GAS REDUCTION FUND: CALIFORNIA DEPARTMENT  
OF FORESTRY AND FIRE PROTECTION EXPENDITURE RECORD  
FOR FISCAL YEAR 2014-15 – DEMONSTRATION STATE FOREST  
RESEARCH

Thank you for submitting the revised expenditure record (attached) on behalf of the California Department of Forestry and Fire Protection (CAL FIRE) on September 9, 2016 to satisfy the requirements of Senate Bill 1018 (Budget and Fiscal Review Committee, Chapter 39, Statutes of 2012) for expenditures from the Greenhouse Gas Reduction Fund (Fund). We appreciate the iterative consultation process with CAL FIRE staff on the development of this record to support expenditures from the Fund for the Demonstration State Forest Research Program.

This memorandum documents that Air Resources Board (ARB) staff concurred on September 16, 2016 that the attached record is consistent with the statutory requirements of Government Code Section 16428.9 and with ARB's expectations, as documented in the *Funding Guidelines for Agencies that Administer California Climate Investments*.

The CAL FIRE Expenditure Record for the Demonstration State Forest Research Program for Fiscal Year 2014-15, along with this memorandum, will be published on the ARB Cap-and-Trade Auction Proceeds website at: [www.arb.ca.gov/auctionproceeds](http://www.arb.ca.gov/auctionproceeds).

If you have any questions concerning this memorandum, please contact me at (916) 324-0062 or via email at [Cynthia.Marvin@arb.ca.gov](mailto:Cynthia.Marvin@arb.ca.gov).

#### Attachment

cc: See next page.

*The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our website: <http://www.arb.ca.gov>.*

California Environmental Protection Agency

**Greenhouse Gas Reduction Fund: Expenditure Record**

**Fiscal Year: 2014-15 Funds**

California Department of Forestry and Fire Protection (CAL FIRE)  
 Demonstration State Forest Research

*Revised for Consistency with Fuels Reduction Expenditure Record*

**Authorizing legislation:** Item 3540-001-3228 (Senate Bill 852, Chapter 25, Statutes of 2014) appropriated \$17,847,000 and item 3540-101-3228 (Senate Bill 852, Chapter 25, Statutes of 2014) appropriated \$24,153,000 to implement fire risk reductions, forest health activities, and urban forestry projects.

**(1) A description of each expenditure proposed to be made by the state agency pursuant to the appropriation.**

<input type="checkbox"/> Agency that will administer funding	<ul style="list-style-type: none"> <li>▪ California Department of Forestry and Fire Protection (CAL FIRE)</li> </ul>
<input type="checkbox"/> Amount of proposed expenditure and appropriation reference	<ul style="list-style-type: none"> <li>▪ Items 3540-001-3228 and 3540-101-3228 of the Budget Act of 2014 include \$24,153,000 (\$22,353,000 in grants and \$1,800,000 in program/administrative staff) from the Greenhouse Gas Reduction Fund (GGRF) for forest management activities that will reduce greenhouse gases (GHG).</li> <li>▪ Of that amount, \$1.9 million will go towards the Demonstration State Forest Research projects described in this Expenditure Record.</li> </ul>
<input type="checkbox"/> Intended recipients	<ul style="list-style-type: none"> <li>▪ Universities</li> <li>▪ Agencies</li> <li>▪ Other organizations or persons</li> </ul>
<input type="checkbox"/> Project category	<ul style="list-style-type: none"> <li>▪ Natural Resources, Demonstration State Forests Research</li> </ul>
<input type="checkbox"/> Type of projects that will be eligible for funding	<ul style="list-style-type: none"> <li>▪ This program will provide grants for research focused on land management practices aimed at achieving a net GHG benefit such as increasing carbon sequestration, protecting forests from the impacts of catastrophic fire, pests and disease, and avoiding conversion of forest land to non-forest uses. Research to improve and validate existing carbon models and estimation equations is also eligible.</li> <li>▪ All projects will have a field component that results in a direct net GHG benefit.</li> <li>▪ Additional monitoring and reporting will be required for research projects that fund fuels reduction treatments in order to enhance the existing scientific understanding of the impact of fuels treatment projects on forest carbon stocks.</li> </ul>

- 
- |   |  |
|---|--|
| <input type="checkbox"/> Process for selecting projects for funding | <ul style="list-style-type: none"><li>▪ Competitive solicitation, evaluation and selection of projects according to the program Request for Proposals and Procedural Guides. The contracts will be awarded through an open invitation for bids using the standard state contracting process.</li></ul> |
|---|--|
- 

**(2) A description of how a proposed expenditure will further the regulatory purposes of Division 25.5 (commencing with Section 38500) of the Health and Safety Code, including, but not limited to, the limit established under Part 3 (commencing with Section 38550) and other applicable requirements of law.**

- 
- |   |  |
|---|--|
| <input type="checkbox"/> How the expenditure is reflected in the three-year Investment Plan | <ul style="list-style-type: none"><li>▪ AB 1532 requires that GGRF monies be appropriated in a manner that is consistent with the three-year Investment Plan. The 2013 Cap-and-Trade Auction Proceeds Investment Plan<sup>1</sup> recommends that funds be used for research, development, and deployment of innovative technologies, measures, and practices related to programs and projects funded by cap and trade auction proceeds.</li><li>▪ In addition, the First Update to the Scoping Plan<sup>2</sup> recognizes the key role that forests must play in meeting California's GHG emission reduction goals. It describes a series of policies, actions, and strategic investments to enhance, protect, and conserve California's natural and working lands in ways that will provide important climate benefits, specifically recommending continued research on effective GHG reduction and sequestration practices and investment in expanded monitoring and research to reduce uncertainty in carbon quantification and attribution of GHG flux by disturbance process.</li><li>▪ CAL FIRE's proposed expenditures on forest research projects are designed to capitalize on these climate change mitigation opportunities, further the GHG emission reduction regulatory purposes of Section 38500, and align with the priorities of the Investment Plan. This is achieved by implementing forest research projects that result in a net GHG benefit and involve increasing carbon sequestration, protecting forests from the impacts of catastrophic fire, pests, and disease, or avoiding conversion of land to non-forest uses.</li></ul> |
|---|--|
- 

<sup>1</sup> Cap-and-trade auction proceeds investment plan: fiscal years 2013-14 through 2015-16.

[http://www.arb.ca.gov/cc/capandtrade/auctionproceeds/final\\_investment\\_plan.pdf](http://www.arb.ca.gov/cc/capandtrade/auctionproceeds/final_investment_plan.pdf)

<sup>2</sup> First Update to the Climate Change Scoping Plan

[http://www.arb.ca.gov/cc/scopingplan/2013\\_update/first\\_update\\_climate\\_change\\_scoping\\_plan.pdf](http://www.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf)

**(3) A description of how a proposed expenditure will contribute to achieving and maintaining greenhouse gas emission reductions pursuant to Division 25.5 (commencing with Section 38500) of the Health and Safety Code.**

Expected time frame when reductions will be achieved and how expenditure will maintain GHG reductions

- The goal of this grant program is to fund forest research projects for the purpose of achieving net GHG reductions. In order to be deemed complete and eligible for consideration of funding, project proposals are required to include a clear description of the estimated net GHG benefit that will be achieved through project implementation.
- The research projects and expenditures enhance carbon sequestration and improve the stability of forest carbon through silvicultural practices that promote forest resilience. Research may relate to a variety of improved forest management practices including reforestation, forest pest control, fuels reduction, or avoided conversion.
- All projects will have a field component that results in a net GHG benefit calculated using an ARB approved quantification methodology. The practices that will achieve that benefit will vary but may include tree planting, selective removal of biomass to enhance carbon sequestration and resilience of remaining trees, protecting forests under threat of conversion, and utilization of biomass for wood products or as an alternative to fossil fuel-based energy.
- The timeframe for achieving reductions will also vary by project type with some projects achieving a benefit upon completion of project activities and others requiring several years for a GHG benefit to be realized.
- Projects that do not immediately result in a GHG benefit must be sustained at least until a net GHG benefit is realized and maintained for 10 years, during which time CAL FIRE will monitor projects for compliance with the terms of the grant. If that time period extends beyond the Phase 2 reporting period described in ARB's Funding Guidelines, CAL FIRE will continue to monitor the research projects for compliance with the terms of the grant until the GHG benefit is realized and maintained for 10 years. The grant recipient will provide access to CAL FIRE as needed, for periodic monitoring of selected projects.
- As research projects, the net GHG benefit achieved will be quantified through monitoring activities. Monitoring 100% of research projects will help to advance the scientific understanding of the impact of funded forest practices on forest carbon stocks.

**(4) A description of how the state agency considered the applicability and feasibility of other nongreenhouse gas reduction objectives of Division 25.5 (commencing with Section 38500) of the Health and Safety Code.**

□ Expected co-benefits, particularly environmental, economic, public health and safety

---

Forest research can occur within any of the GGRF programs CAL FIRE manages. Direct and indirect public benefits are attributable to the applied demonstration of the research. The specific co-benefits achieved by any forest research project will vary depending on the area of research. Despite the variation, all research projects are expected to result in healthier, more resilient forests that provide numerous co-benefits including:

- Avoiding or reducing the impacts to forests from catastrophic wildfire
- Maintaining or improving water quality by impeding erosive runoff that can discharge sediments into streams
- Healthy resilient forests that are more resistant to fire and climate change
- Well managed forested landscapes which lessen the risk to life, public safety, and infrastructure
- Functional wildlife habitat for state and federally listed species
- Habitat, refugia and migration corridors for wildlife, and maintain the diversity of natural communities that are increasingly stressed by climate change
- Maintenance of, and improved air quality
- Preservation of historic and cultural resources
- Green/ bioenergy development
- Reduction of fossil fuel-based energy demand
- New and existing employment opportunities
- Enhanced recreational opportunities and tourism revenue

In addition to the direct GHG benefits that projects will achieve, the research will add to the scientific community's understanding of forests as they relate to climate change. This research will help inform best management practices for enhancing carbon storage in forests, adaptation to climate change and improve models and estimation equations. This research will enable forest managers to maximize carbon sequestration in forested areas and estimates of forest GHG emissions and emission reductions.

The forest research program will also support other AB 32 objectives including complementing the State's effort to improve air quality and providing opportunities for community institutions and small businesses to participate in and benefit from GHG reduction efforts via issuing grants to nonprofit organizations.

---

---

<input type="checkbox"/> Disadvantaged community benefits, if applicable, as defined in ARB guidelines	<ul style="list-style-type: none"><li>▪ These grants are not expected to directly benefit disadvantaged communities.</li></ul>
<hr/>	
<input type="checkbox"/> Percentage of total funding that will be expended for projects that benefit disadvantaged communities, per ARB guidelines	<ul style="list-style-type: none"><li>▪ These grants are not expected to directly benefit disadvantaged communities.</li></ul>
<hr/>	
<input type="checkbox"/> How the project will support other AB 32 objectives (see below)	<ul style="list-style-type: none"><li>▪ The forest research program will also support other AB 32 objectives including complementing the State's effort to improve air quality and providing opportunities for community institutions and small businesses to participate in and benefit from GHG reduction efforts via issuing grants to nonprofit organizations.</li></ul>

---

**(5) A description of how the state agency will document the result achieved from the expenditure to comply with Division 25.5 (commencing with Section 35800) of the Health and Safety Code.**

---

<input type="checkbox"/> Approach that will be used to document net GHG reductions before and after project completion. Include citations for references that support methodology.	<ul style="list-style-type: none"><li>▪ Project proponents and CAL FIRE will calculate the net GHG benefit from the program described here using ARB-approved quantification methodologies. CAL FIRE will work closely with ARB to improve GHG reduction methodologies for all forestry projects in order to ensure that only projects with a net GHG benefit are funded with GGRF funds.</li><li>▪ A net GHG benefit for forest research projects is calculated by comparing the project scenario to the no-project scenario at the end of the project life. The inclusion of carbon pools and length of project life will be dependent upon the type of field component linked to the research.</li><li>▪ The GHG benefit will be calculated using ARB approved quantification methodologies consistent with the project types described in the expenditure records for the other CAL FIRE programs, as appropriate.</li></ul>
--	--

---

---

<p>□ Type of information that will be collected to document project results, as described in ARB guidelines</p>	<ul style="list-style-type: none"><li>▪ Grantees will collect and report project results to CAL FIRE for entry into the Department's CAL Mapper Information System. Information such as acres treated, location of projects, funds expended, solid wood or biomass products generated, and net GHG benefit will be collected and recorded.</li></ul>
<p>□ How the agency will report on program status</p>	<ul style="list-style-type: none"><li>▪ CAL FIRE will regularly report on expenditures, status of grant projects, and project benefits in reports prepared and submitted according to ARB guidelines. At a minimum, such reports will include expenditures, net GHG benefit, and co-benefits.</li></ul>

---