August 11, 2020

Mr. Galen Schuler
Green Diamond Resource Company
1301 Fifth Avenue, Suite 2700
Seattle, Washington 98101

Dear Mr. Schuler:

The California Air Resources Board (CARB) has reviewed the application for determination of Direct Environmental Benefits in the State of California (DEBS) submitted by the Green Diamond Resource Company pursuant to the California Cap-and-Trade Regulation (Cal. Code Reg., tit. 13, § 95989, subd. (b)).

The application, dated July 23, 2020, provides a detailed report presenting evidence of the environmental benefits the project provides to the state of California. The offset project has demonstrated that the offset project operator, Green Diamond Resource Company, has committed to certain forest management activities to improve water quality and reduce fire risks. Although these management activities take place on forestland outside of California, the project lands are located within the upper basins of two important California river watersheds, the Klamath and Sacramento Rivers. The application demonstrates, among other things, that the offset project provides for the reduction or avoidance of pollutants that are not credited pursuant to the 2014 Compliance Offset Protocol U.S. Forest Projects in California that could have an adverse impact on waters of the State. CARB staff has determined that the Green Diamond Resource Company-Klamath East IFM Project provides DEBS.

CARB Project ID	*Project Name*	*Provides DEBS*
CAFR5233	Green Diamond Resource Company-Klamath East IFM	Yes

If you have any questions regarding this response, please contact Jason Gray, Chief, Climate Change Program Evaluation Branch, at (916) 324-3507 or via email at Jason.Gray@arb.ca.gov.

Sincerely,

Richard W. Corey
Executive Officer

cc: Edie Chang
Deputy Executive Officer

Rajinder Sahota, Chief
Industrial Strategies Division

Jason A. Gray, Esq., Chief
Climate Change Program Evaluation Branch
Industrial Strategies Division

Wesley Dyer
Attorney

STATE OF CALIFORNIA
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
CALIFORNIA AIR RESOURCES BOARD

APPLICATION FOR DIRECT ENVIRONMENTAL BENEFITS STATUS

CARB STAFF USE ONLY

CARB Form Tracking Number:	Date Received:	Date Processed:
Date Reviewed:	Date Revisions Requested:	Date Approved:

PART I: OPO/APD CONTACT

The person completing this form should be an Offset Project Operator (OPO), Authorized Project Designee (APD), or holder of offset credits employee or representative and may differ from the Compliance Instrument Tracking System Service (CITSS) account representative signing the form. This contact person is the person California Air Resources Board (CARB) staff will contact with any questions regarding this application.

Contact Person: John Davis	
Telephone Number: 541-880-5463	Email Address: JDavis@greendiamond.com

PART II: OFFSET PROJECT INFORMATION

Offset Project Name: Green Diamond Resource Company Klamath East IFM	
OPR Project ID#: 273	CARB Project ID # (if applicable): CAFR5233
Offset Project Operator (OPO): Green Diamond Resource Company	Authorized Project Designee (APD): N/A

Offset Project Registry Listing Project:

- ☑ American Carbon Registry
- ☐ Climate Action Reserve
- ☐ Verra

Compliance Offset Protocol:

- ☐ Livestock Projects
- ☐ Mine Methane Capture Projects
- ☐ Ozone Depleting Substances Project
- ☐ Rice Cultivation
- ☑ U.S. Forest Projects
- ☐ Urban Forest Projects

Compliance Offset Protocol Version:

- ☐ October 20, 2011
- ☐ April 25, 2014
- ☑ November 14, 2014
- ☐ June 25, 2015

APPLICATION FOR DIRECT ENVIRONMENTAL BENEFITS STATUS

PART III: ENVIRONMENTAL BENEFITS DOCUMENTATION SUMMARY

Summarize the documentation supporting this application for determining that this project has Direct Environmental Benefits in California, including a list of all data, information, and reports. Specify which provision(s) in section 95989(b) (1)-(3) of the Cap-and-Trade Regulation is being relied on for this application. Attach all documentation to this form.

See attached document "DEBs Application Attachment_Klamath East IFM _23July2020" that contains background , justification, and scientific literature references supporting Green Diamond Resource Company's claim that the Klamath East IFM project meets requirements of Section 95989 of the Cap-and-Trade Regulation and should be awarded Direct Environmental Benefits status.

PART IV: OPO SIGNATURE

In signing this form, I certify under penalty of perjury of the laws of California that the information contained in this form is true, accurate, and complete. I further certify that I am an Account Representative of the (OPO) or holder of offset credits.

Signature: DocuSigned by: F6B45487A519475...	Printed Name: Galen Schuler
Title: Vice President and General Counsel	Date: 07/23/2020

Introduction

The Klamath East IFM project provides direct environmental benefit to the waters and air of the state of California because of its location in upper basins of the state's two largest rivers and its geographic proximity to the state. The project area is mostly located within the Klamath River watershed basin, the headwaters of the Klamath River, and a small portion of the project area is within the headwaters of the Sacramento River. Also, air quality within the state of California is directly affected by the project due to its proximity to California airsheds. The direct environmental benefit claims for this project beyond carbon are based on scientific, peer-reviewed information and from government reports, and are not credited through the California Resources Board's Forest Offset Protocol.

Background

The Klamath East IFM Project is located north, east, and south of the town of Klamath Falls, Oregon. The project area includes approximately 402,349 acres in Oregon's Klamath and Lake Counties. These Oregon Counties are adjacent to and directly north of California's Siskiyou and Modoc Counties.

The project activities will lead to increased carbon stocks as compared to business as usual. Uneven-aged natural forest management will be practiced across a significant component of the project area, including forest thinning and plantings to reestablish and maintain optimal stocking levels across the project area, as well as extending the length of harvest rotations.

Green Diamond Resource Company is making long-term investments in these lands to improve forest health, increase productivity, and enhance resiliency to reduce pest outbreaks and wildfire occurrence while storing greater amounts of carbon over the next 100 years. This carbon project offers additional financial resources through the sale of carbon offsets to restore these lands to a healthier and more productive and resilient condition.

Justification

1. <u>Reduction of pollutants that could have an adverse impact on the waters of California not credited under the CARB Forest Offset Protocol</u>**.**

The Klamath East IFM project has direct positive impact on the quality of water entering the two largest rivers flowing through California. The project area is located within the Klamath River watershed basin, the headwaters of the Klamath River, and a small portion of the project area is within the headwaters of the Sacramento River (see Figure 1 - map of project area within the Klamath River and Sacramento watershed basins). The project area includes 75% of its area in the Klamath River watershed basin and 2% of its area in the Sacramento watershed basin. This section identifies the interrelatedness of land within a watershed and then describes the uncredited pollution reduction benefits this project provides within these important California watersheds.

The Clean Water Act defines pollution as the man-made or man-induced alteration of the chemical, physical, biological, and radiological integrity of water (Clean Water Act [Title 33, Chapter 26, Subchapter V, Sec. 1362(19)]). In 1987, Section 319, established the Nonpoint Source Management Program to help focus state and local efforts to reduce nonpoint sources of water pollution. While EPA has no explicit definition of nonpoint sources, by omission they include any indirect source of water

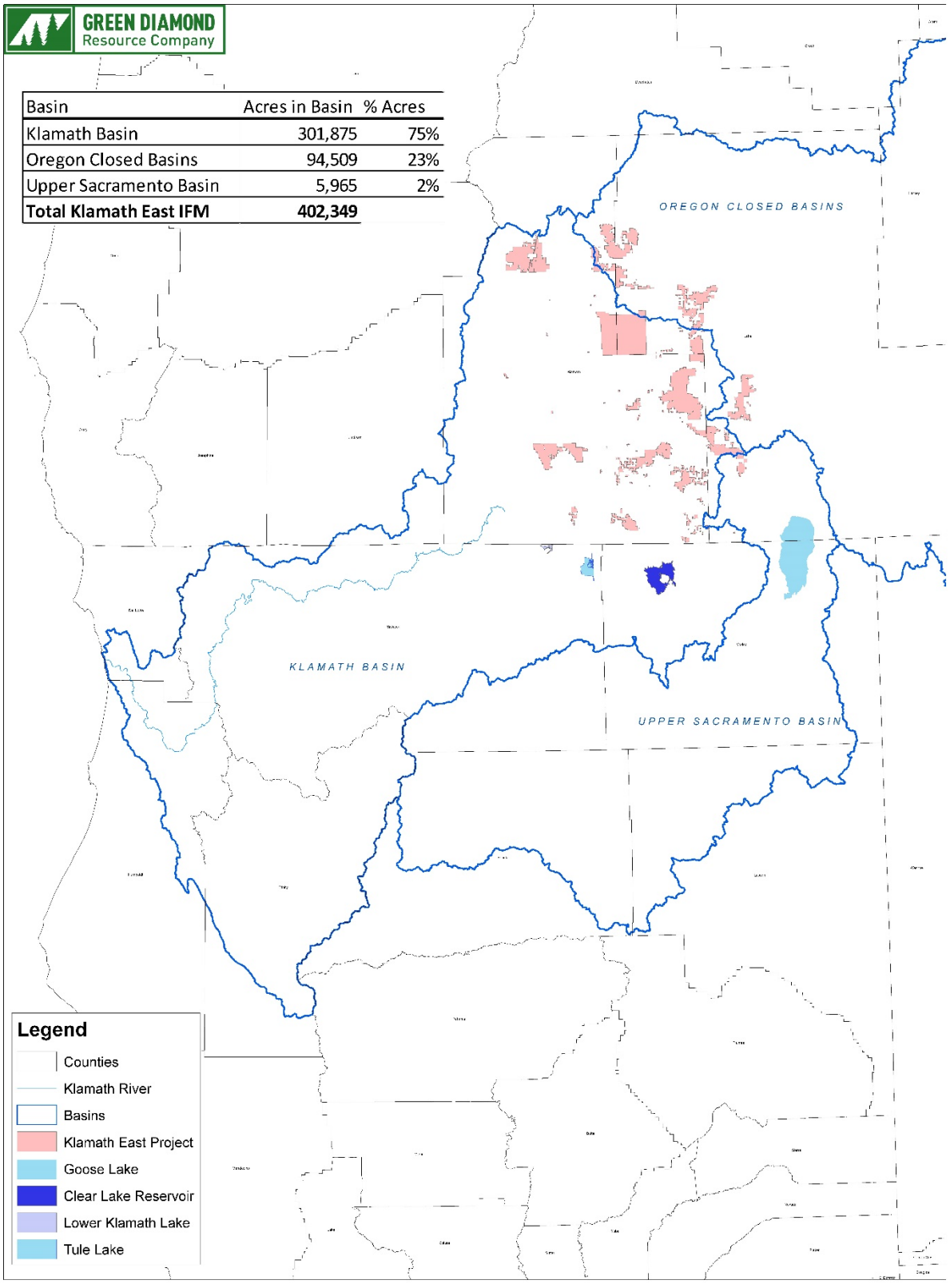

Figure 1. Klamath East IFM Project Area in relation to Klamath and Sacramento Basins

pollution. Nonpoint sources of pollution are largely a result of runoff associated with precipitation, atmospheric deposition, infiltration, drainage, seepage, or hydrologic modification.

This interrelatedness of water quality to the entirety of a watershed is well established in the scientific literature. Glasser (2005) documents USDA Forest Service watershed management back to the Organic Act of 1897, and some of the more recent efforts have focused on the cumulative nature of water pollution within a watershed. These cumulative impacts can either be through multiple activities at a single point (Stein and Ambrose, 1998) or through activities at multiple sites as water makes its way from the headwaters to the discharge site (Davies et al., 2016), or both (Bisson et al. 1992). Therefore, not only is the Klamath East IFM project important to California water quality, but when considering its position at the headwaters and cumulative effects, it is of critical importance.

The role of forests in watershed health has been well documented in scientific literature. The benefits include improved water quality (reduced pollutants), regulating flow, and protecting aquatic species habitat (Hamilton, 2008). Healthy forests reduce the risk of runoff that carry pollutants into the waters of California (CARB 2017), in this case from the project area directly into the Klamath and Sacramento rivers. Forest water pollution most often comes from nonpoint sources with sedimentation from road construction and road use being significant factors. The goal of the Klamath East IFM project is to improve forest health, while storing greater amounts of carbon over the next 100 years. In achieving this goal, the project also increases water quality benefits by reducing nonpoint source pollution to the waters of California.

Among the beneficial uses of the Klamath River system are sensitive or protected stocks of salmon and steelhead that migrate to and from coastal California during their lifecycle. Water quality improvements in the Klamath River Basin are beneficial to and necessary for Southern Oregon Northern California Coastal Coho (SONCC), which are listed for protection under the federal and California Endangered Species Acts. In addition, Upper Klamath and Trinity River Chinook, and Klamath River steelhead stocks are vital fishery resources that are important to California and dependent on the quality of Klamath River water flowing from Oregon into California. The project contributes to improvements in water quality that will positively impact anadromous fish stocks in California.

In terms of added water quality benefits, the project focuses on two primary management actions; improving overall forest health and resilience by restoring forests to more natural conditions through thinning overstocked stands and reducing further fragmentation of the land base by extending the rotation age of forest stands.

Reducing Wildfire Risk - Thinning overstocked stand, reduces the risk of the project area being impacted by catastrophic pest and disease outbreaks and destruction due to wildfire (O'Donnell et al. 2018). Scientific literature has documented that surface water coming off burned areas results in serious and immediate water quality problems in streams, lakes, and reservoirs (Aregai et al. 2015). By reducing the risk of wildfire through improving forest health condition and stand structure across the project area, there will be a long-term reduction of pollutants (sediment) entering the waters of California through the Klamath River and Sacramento River.

Also, thinning overstocked forests can help boost overall annual water yields by allowing snow to fall to the ground and reducing evapotranspiration providing more groundwater and extending water yields later into the dry season. Forest thinning plays a role in augmenting river flows on a seasonal basis,

improving conditions for water-dependent ecosystems, and benefitting the water supplies of downstream communities (Robles et al. 2015) – in this case downstream affects occur in California.

Forest Fragmentation - Coniferous forests in the Klamath River watershed basin and elsewhere in the U.S. Pacific Northwest have been subjected to substantial levels of disturbance throughout the last century primarily through logging and fire suppression (Lehmkuhl et al. 1991). Specifically, disturbance patterns across the Klamath River watershed basin indicate that both private and public lands have become increasingly fragmented. This fragmentation can contribute to water quality degradation (Status et al. 2020). The project activities will reduce forest fragmentation over the project period and contribute to improvements in water quality in the Klamath and Sacramento watershed basins.

In the forest environment, road construction and road use are the largest source of sediment to water bodies. The Klamath East IFM project is changing the harvesting practices as compared to business as usual, resulting in a reduction in water pollutants to California waters. The positive relationship between log hauling traffic between forest and mill with sedimentation (Reid and Dunne, 1984) or debris slides (Amaranthus et al., 1985) has been well documented in the scientific literature, and more recently sedimentation due to skid trails moving logs from the tree location to forest road have also been explored (Akbarimehr and Naghdi, 2012). By extending the rotation age of forest stands, this project will reduce density and extend the time between harvesting events resulting in more volume per tree and therefore fewer skidding turns in a logging operation. There will also be less frequent forest road traffic from a given forest location giving more time for natural processes to recover. The cumulative reduction in harvest activities over the project period (100 plus years) will reduce the pollutants entering the waters of California.

2) Reduction of emissions of any air pollutant that could have an adverse impact on the air of California not credited under the CARB Forest Offset Protocol.

The Klamath East IFM project has direct positive impact on the quality of air of California because the project activities are reducing air pollutants that impact California airsheds due to the project's geographic proximity to the state. The project area is adjacent to California's Siskiyou and Modoc counties.

The project activities are improving overall forest health and resilience by restoring forests to more natural conditions through thinning overstocked stands, diversifying the tree species mix, and extending the rotation age of forest stands. Healthy forests, with reduced fuel loads, help reduce the risk of wildfire and local air quality risks (Forest Climate Action Team 2018). Specifically, project activities include chipper thinning overstocked stands which reduces fuel loads, breaks up fuel continuity that increases tree survivability, and improves fire suppression efforts, and it will provide raw material for the Red Rock Biofuels plant that will be producing low carbon renewable biofuels in Lakeview, Oregon.

The project activities are increasing the average age of trees across the project area. Increased large tree canopy removes certain pollutants (leaves and needles have surface area that can allow for removal (deposition) of ozone, nitrogen dioxide, and to a lesser extent particulate matter) (CARB 2012).

Since the project activities are increasing the average age of trees across the project area, the number of harvest entries will be reduced over the project period. Reduced harvest entries will reduce fossil fuel

usage by equipment and vehicles which will result in reduced energy consumption (CEC 2005) and reduced toxic and GHG emissions that are not accounted for in the Forest Offset Protocol.

Conclusion

The Klamath East IFM project is providing direct environmental benefit to the waters and air of California by reducing the pollutants that could have an adverse impact on the waters and air of the state. This is because the project activities are improving the health and resiliency of forests within the project area, which scientific literature indicates will reduce water pollution, and the water emanating from the project area are within the watershed basins of the two largest rivers in California, the Klamath and Sacramento Rivers. In addition, reduced wildfire risk will reduce air pollutants impacting California airsheds that are adjacent to the project area. Reducing the number of harvest entries over the project period will also reduce the release of air pollutants that would impact California airsheds due to the project's geographic proximity to the state. All these benefits are in addition to the GHG reductions for which this IFM project is receiving credits. Therefore, the Klamath East IFM project meets requirements of Section 95989 of the Cap-and-Trade Regulation and should be awarded Direct Environmental Benefits status.

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