December 15, 2010

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California Air Resources Board
1001 I Street
Sacramento, California 95812

Subject: Comments on the offset provisions of the Proposed Regulation to Implement the California Cap-and-Trade Program (released October 28, 2010)

I. Introduction

These comments are submitted by the Offsets Working Group (OWG), a collaborative team of publicly-owned electric utilities serving customers in California.[1] Each of the OWG members is a Covered entity[2] that will have a Compliance obligation[3] under the Air Resources Board's (ARB) proposed regulations. These comments serve as the OWG's responsive input to the provisions of the Proposed Regulations (PR) related to offsets.

II. Recommendations

Throughout the entire AB 32 regulatory process, the OWG met with ARB staff and management on many occasions to provide comments and recommendations on the offset provisions. The OWG commends ARB staff for their efforts in developing the offset regulations and also for their openness to considering insights and recommendations from stakeholders. The OWG is generally satisfied with the offset scheme presented in the PR. There are, however, several provisions in the PR that require either clarification or amendment in order to promote greater cost-effectiveness and feasibility for Covered entities. Accordingly, the OWG provides recommendations as described below.

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[1] The OWG includes representatives from the Modesto Irrigation District, Redding Electric Utility, City of Roseville, Sacramento Municipal Utility District, and Turlock Irrigation District. These utilities comprise approximately 1/3 of the electricity load in California served by publicly-owned electric utilities.

[2] PR § 95802(a)(44) (defining "Covered Entity").

[3] PR Subarticle 7; PR § 95802(a)(37) (defining "Compliance obligation").

A. Recommendation on Section 95854 – The quantitative usage limit should not apply to offset projects that result in direct emission reductions within California.

The PR should exclude offsets that derive from California projects from the quantitative usage limit established in section 95854. A large part of the intent of such a limit is to ensure sufficient emission reductions within California. Offset projects that meet the intent of in-state reductions are reasonably excluded from the limit. This policy will provide additional incentives to develop offset projects within California, and bring with it the complementary benefits of such in-state development. The PR already includes specific categories of offsets and non-California allowance instruments with differential requirements and differential application of the quantitative usage limit. Creating an additional division in the offset structure to exclude in-state offset projects from the quantitative limit should be considered as the PR is finalized in 2011. If ARB includes Low Carbon Fuel Standard ("LCFS") credits in the cap and trade (*see discussion in Paragraph I, below*), the OWG believes that these reductions as well will occur within California, and represent real reductions of GHG emissions in-state, so should not be subject to the Quantitative Emissions Limit that applies to offsets in general.

B. Recommendation on Section 95854 – The formula calculating the offset quantitative usage limit should be drafted more clearly.

The quantitative limit should be based on the covered entity's emissions in the relevant compliance period and not on the "annual compliance obligation." The "annual compliance obligation" is a mandatory minimum as defined in Section 95855 and is 30% of the entity's reported emissions from the previous year. Using the calculation in the PR, a Covered entity would be limited to surrendering offsets representing only 8% of the 30% of its emissions (i.e., only 2.4% of the entity's emissions). This unnecessarily restricts the surrendering of offsets by Covered entities which should always be allowed to surrender up to 8% of their reported emissions in the relevant compliance period (annual or triennial). The OWG recommends a simpler calculation in the form shown below.

*O shall be ≤ S * 0.08, where*

O = Total number of compliance instruments that are designated as subject to this quantitative usage limit pursuant to subarticle 4, section 95821(b), (c), and (d) *that may be surrendered in the relevant compliance period*. Sector-based credits . . .
S = Covered entity's ~~annual or triennial compliance obligation~~ *positive or qualified GHG emissions reported in the relevant compliance period*.
L = Quantitative offset credit usage limit, set at 0.08.

C. Recommendation on Section 95913(c)(1)(B) – Covered entities should be allowed to purchase allowances from the Allowance Price Containment Reserve even if the entity has offset credits in its holding account.

The regulations include four key program elements for the purpose of cost containment. Three of these program elements were designed for providing compliance flexibility; offset credits, unlimited banking, and the Allowance Price Containment Reserve ("APCR"). The APCR will be filled with a certain minimum amount of allowances and it may also be filled with some allowances that remain unsold at auction. The total amount of allowances that exist, of course, is capped. In contrast, the total amount of offsets that may exist is unrestricted, but the regulation limits the maximum amount of offsets that may be used for compliance. Accordingly, the existence of more offsets in the market may serve to reduce compliance costs, but it is impossible for any "over-supply" of banked offsets to break the emissions cap. The regulations prevent access to the APCR by covered entities that are holding any compliance instrument. Due to the 8% cap on offsets, a compliance entity may have offsets in its holding account that cannot be used to meet a compliance obligation. Therefore, the holding account is not empty but does not hold any *useable* compliance instruments. Offsets and the APCR are two separate cost containment mechanisms. Therefore, the regulations should not place an artificial restriction on offset projects by preventing access to APCR *allowances* by covered entities that have banked *offset credits* in their holding accounts.

The OWG recommends language as follows:

> § 95913(c)(1)(B) – Only covered entities (including opt-in covered entities) which hold no ~~compliance instruments~~ *allowances* in their holding accounts or limited use holding accounts may purchase allowances from the Allowance Price Containment Reserve. *Covered entities may purchase allowances from the Allowance Price Containment Reserve regardless of whether they hold offset credits in their holding accounts or limited use holding accounts.*

D. Recommendation on Section 95972 and ARB Forest Offset Protocol pages 14, 25 - Increase the Crediting Period for Reforestation to no less than 50 years.

By its very nature, a reforestation project would sequester substantially more carbon dioxide in "project year 100" than in "project year 1." In some cases, the project may actually be a positive source of emissions in the first year due to site preparation. A reforestation project, however, will sequester a substantial amount of carbon dioxide as the forest matures. Additionally, the reforested area will provide substantial ecosystem services that would otherwise not occur. There are multiple environmental co-benefits that may be attributed to forestry projects.[4] These include

[4] Craig, R.K., (2008). *Justice Kennedy and ecosystem services: a functional approach to Clean Water Act jurisdiction after Rapanos*, ENVIRONMENTAL LAW; Daily, G.C., *et al*. (1997). *Nature's Services: Societal Dependence on Natural Systems*, ISLAND PRESS; Daily, G.C., *et al*. (1998). *Ecosystem Services: Benefits Supplied to Human Societies by Natural Ecosystems*; Epting, R., (2007). *The Law and Policy of Ecosystem Services*, ENVIRONMENTAL HEALTH PERSPECTIVES; Escobedo, F, *et al*. (2009). *Air Pollution Removal and Temperature Reduction by Gainesville's Urban Forest*, Document FOR216, University of Florida; Mainka, S., (2008). *Depending on Nature: Ecosystem Services for Human Livelihoods*, ENVIRONMENT; Richards, K., (1997). *Nature's Services:*

water purification, cooling shade, noise reduction, odor reduction, flood control, waste reduction, pollutant reductions, and many other positive attributes.[5]

The OWG has attached as Exhibit 1 to these comments a project summary of a CAR-registered reforestation project that is being conducted at the Cuyamaca Rancho State Park. The summary includes a discussion of the project costs and benefits. This document estimates the sequestration values over 100 years and clearly demonstrates that the environmental benefit to California and the economic incentive to the developer/operator (obtained through the sale of eligible offset credits) can hardly be obtained if a project is terminated after 25 years. The short crediting period may also destroy the incentive to develop a reforestation project because the uncertainty created by a 25-year crediting period may require the developer to recover its total project cost within the initial crediting period. This would likely increase the cost per sequestered ton well beyond the cost of any competing offset project and possibly greater than any allowance price. ARB should acknowledge the scientific, environmental, and economic evidence for increasing the reforestation crediting period to at least 50 years.[6]

The OWG recommends language as follows:

> § 95972(b) - Crediting Periods. . . . *The crediting period for a reforestation project conforming to a protocol listed in either section 95973(a)(2)(C)(iv), 95990(b)(5)(D), or 95990(b)(5)(E) must be no less than 50 years and no greater than 100 years.* The crediting period for a*ny other* sequestration project must be no less than 10 years and no greater than 30 years.
>
> Forest Offset Protocol 3.3 - . . . . . , for a period of 25 years following the commencement date *of an Improved Forest Management project or Avoided Conversion project, or for a period of 50 years following the commencement date of a Reforestation project*.

Societal Dependence on Natural Ecosystems, **ISSUES IN SCIENCE AND TECHNOLOGY**; Straton, A., Pearson, L., (2008). *Importance of "ecosystem services" for sustainable development: ecosystem services are the foundation of sustainable development*, ECOS; Shaw, M.R., et al. (2009). *The Impact of Climate Change on California's Ecosystem Services*, Draft Paper submitted to the California Energy Commission, CEC-500-2009-025-D.

[5] Daily, G.C., *et al*. (2000). *The value of nature and the nature of value*, SCIENCE 289; Hardi, P. (ed.), (1997). *Assessing Sustainable Development: Principles in Practice*, INTERNATIONAL INSTITUTE FOR SUSTAINABLE DEVELOPMENT; Hawkins, K., (2003). *Economic Valuation of Ecosystem Services*, University of Minnesota; Heal, G., (2000). *Valuing ecosystem services*, ECOSYSTEMS; Heal, G., (2000). *Nature and Marketplace: Capturing the Value of Ecosystem Services*, ISLAND PRESS; The Katoomba Group and Forest Trends, (2008). *Payments for Ecosystems Services, Getting Started: A Primer*; Pritchard, L., *et al*. (2000). *Valuation of ecosystem services in institutional context*, ECOSYSTEMS.

[6] "The state board shall evaluate the total potential costs and total potential economic and noneconomic benefits of the plan for reducing greenhouse gases to California's economy, environment, and public health, using the best available economic models, emission estimation techniques, and other scientific methods." Health & Safety Code § 38561(d).

E. Recommendation on Section 95976(e)(4) - Conform this section to a standard no less stringent or burdensome than the California Public Records Act.

Section 95976(e)(2) requires the Offset Project Operator or Designee to retain certain verification records for at least 5 years after the end of the crediting period. For sequestration projects, the retention requirement is 100 years after the credit issuance. Section 95976(e)(3) requires that upon request by ARB or an Offset Project registry, the Offset Project Operator or Designee must provide these documents within 10 calendar days. This standard is unreasonable when applied to the broad scope of documents being retained and the long retention period mandated by Section 95976(e)(2). Many legitimate reasons may impede the access to these archived documents within this short time period. Therefore, the regulation should be conformed to reflect the principles in the California Public Records Act ("CPRA") in Government Code Section 6253. The CPRA recognizes certain "unusual circumstances" in which document production may be delayed. These include: (1) the need to search for and collect the requested documents from field facilities or other establishments that are separate from the office processing the request; (2) the need to search for, collect, and appropriately examine a voluminous amount of separate and distinct documents that are demanded in a single request; and (3) the need to compile data, to write programming language or a computer program, or to construct a computer report to extract data. Particularly in regard to documents that are 15, 25, or even 50 years old, these unusual circumstances may actually be the norm for verification records.

The OWG recommends language as follows:

> § 95976(e)(4) - Upon request by ARB or an Offset Project Registry~~, the Offset Project Operator or Authorized Project Designee must provide to ARB or an Offset Project Registry all documents~~ *for a copy of documents that reasonably describes an identifiable document or documents retained* pursuant to this section, *the Offset Project Operator or Authorized Project Designee shall make the documents promptly available. The Offset Project Operator or Authorized Project Designee, upon a request for a copy of documents,* including data used to develop an Offset Project Data Report *shall,* within 10 calendar days *from receipt* of the request*, determine whether the request, in whole or in part, seeks copies of documents retained pursuant to this section and shall promptly notify the person making the request of the determination and the reasons therefore.*

F. Recommendation on Section 95985(b)(2) – Provide greater clarity on factors that would support a determination that are "sufficient to warrant a reversal" of an issued offset credit.

The regulation uses the word "error," but in the Initial Statement of Reasons on page III-19, the langauge suggests that invalidations will be based on fraud or malfeasance. The regulation should provide greater clarity on the factors that ARB will evaluate when determining whether an issued offset credit will be invalidated.

G. Recommendation on Section 95990(f) – The verification process for early action offset credits should be streamlined.

There is uncertainty among potential buyers concerning this process to verify existing offset credits. This process could also create a significant cost burden that unnecessarily raises the price of early action offsets. The OWG doesn't currently have any recommended changes to the regulatory language. However, before ARB's first round of 15-day language is issued, the OWG members expect to provide additional recommendations promoting a more cost-effective and minimally burdensome way to verify existing offset credits.

H. Recommendation on the ARB Forest Offset Protocol, page 14 - Aggregation.

The OWG encourages ARB to consider and possibly adopt amendments to the ARB Offset Protocol, no later than 2011, permitting the aggregation of small forest projects.

I. Recognition of LCFS Credits In the Cap and Trade Structure

The PR is silent on the question of allowing credits created pursuant to California's Low Carbon Fuel Standard to be traded within the proposed cap and trade structure, indicating that such trades are not contemplated in the structure. The OWG has previously supported inclusion of LCFS credits in the cap and trade, and remain convinced that LCFS credits should be allowed in the cap and trade structure, at least for the years prior to the inclusion of the transportation sector under the cap. This policy will help to create a robust cap and trade market in the initial compliance period and will provide a connection between the cap and trade and LCFS policies enacted by ARB. The previously enacted LCFS regulations signal that LCFS credits are viable instruments for the cap and trade structure, and there has been no rationale presented to exclude these credits. Therefore, ARB should consider allowing LCFS credits in the cap and trade structure as the regulation is finalized in 2011. Such inclusion can occur by adding another subsection under Section 95820, referencing the ARB-created LCFS credits. The OWG submits that including LCFS credits in the cap and trade structure will enhance the viability of the LCFS market by providing another outlet for these credits, will help to ease concerns about adequate offset supply in the early cap and trade market, and will act to harmonize the two regulations and two markets.

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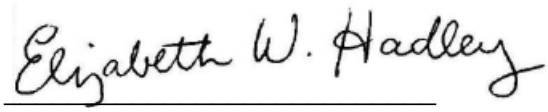
III. Conclusion

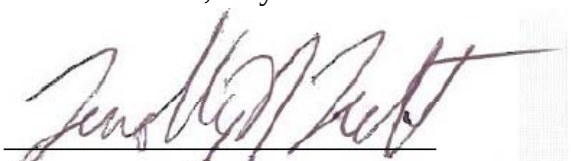
The OWG thanks ARB staff for evaluating and considering the foregoing comments.

Joy Warren, Modesto Irrigation District



Elizabeth Hadley, City of Redding

Michael Bloom, City of Roseville



Timothy Tutt, Sacramento Municipal Utility District

Dan Severson, Turlock Irrigation District

EXHIBIT 1

CUYAMACA RANCHO STATE PARK
REFORESTATION PROJECT
PROJECT DESCRIPTION

FEBRUARY 10, 2010

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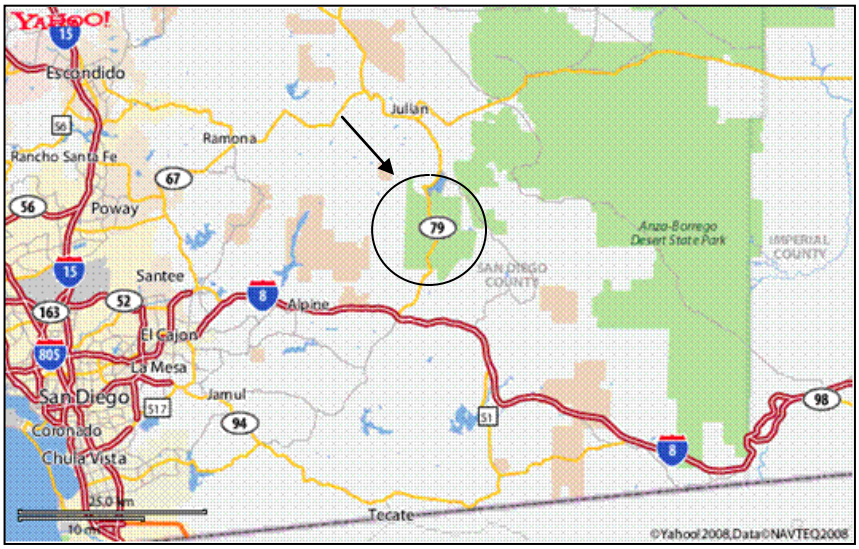
EXHIBIT 1

LIST OF MAPS

A. Project Summary and Goals



The goal of the Cuyamaca Rancho State Park (CRSP) Reforestation Project (the Project) is to restore the park's forest—95% of which was destroyed by the catastrophic 2003 Cedar Fire--to conditions of a diverse native forest favorable for wildlife habitat and resistant to catastrophic fire events. The project will also provide long-term climate benefits. The project consists of replanting 2,530 acres (1,023 ha) in the 24,768 acre (10,023 ha) park, in dispersed patches designed to advance restoration of the mixed conifer forests of the park over time. (See Maps 1, 2, 3, and 4.)

CRSP is located 40 miles (64 km) east of San Diego on Highway 79 in San Diego County, California, within the Peninsular Range of mountains with elevations ranging between 3,400 feet and 6,500 feet. (Latitude: 116.57.30 W, Longitude: 32.56.00N)

In October and November of 2003, the Cedar Fire burned over 279,900 acres (113,000 ha) in Southern California including almost the entire CRSP. (See Maps 5, 6, 7, 8, and 9.) This was the largest fire in California as recorded by fire perimeter maps which have been used to document the extent of burned areas since the early 1900's. Conifer mortality in the park was extremely high (>95%) due to the fire severity and extremely high temperatures which resulted in very low seed cone survival.

In the period since the fire, post-fire vegetation has been dominated by herbs, shrubs and re-sprouting oak species. Conifer forest appears to be regenerating at only a small fraction of its pre-fire density. The conifer forest historically present in the park is considered to be a very important habitat to the region, occurring in "sky islands" on higher elevation peaks in the park with a rich diversity of species. The 2003 Cedar Fire affected large proportions of these relatively small, forested areas. The goal of the Project is to restore the biodiversity and ecosystem functioning of these sky islands in a way that protects them from the threats of damaging wildfire, disease and invasive exotics.

<u>Regeneration of Conifers</u>

The project consists of planting of 2,530 acres of former forest lands in a series of patches that mimic recovery of a landscape burned in a more "natural" and less intense fire. These patches, representing approximately 15% of the burned acreage formerly in mixed conifer forest, will become centers for seed dispersal and are expected to speed further recovery of the larger conifer forest. The targets for recovery in these patches are as follows:

> *Basal area*: The target or desired basal area of tree cover (measured as the amount of total tree cross sectional area at breast height in square feet per acre) is roughly 50 to 100 square feet per acre with a range of diameter classes. This approximates what was found 75 years ago, before the effects of fire suppression management occurred. This is in contrast to the pre-Cedar Fire condition which was on the order of three times that amount (Wieslander, 1935; Zedler and Krofta, 1996; Goforth and Minnich, 2008). These targets may vary depending on climate or other factors.

Stocking Density: The target for stocking density is the pre-fire suppression era cover level of 47 percent. The trend in density had changed from 47 percent cover in 1928 to 89 percent in 1995 with implementation of fire suppression management (Goforth and Minnich, 2008).

Stand Composition for Trees: The target is to recreate a composition similar to conditions before the fire suppression era with a higher proportion of pines than was present in the last decades. Studies show that the higher densities of the 1990's were mainly the result of an increase in small diameter class, shade-tolerant Incense Cedar and White Fir (Zedler and Krofta, 1996; Goforth and Minnich, 2008).

Stand Composition for Brush and Native Annual Grasses: The target of the Project is to reduce shrub and native annual grasses within the planting area to below 20% over time. In some of the stands surveyed post-fire *Ceanothus palmeri* increased from 3% to 31% and the cover of native annual grasses increased from 3% to 40% (Franklin, 2008). It is expected that some of the dense *Ceanothus palmeri* stands will undergo self-thinning (Franklin, 2008). In many of the non-project areas of the park Ceanothus will continue to be abundant. The Project includes a study to determine the role of *Ceanothus sp*. as nitrogen fixers which can be important to ecosystem recovery following nitrogen volatization by fires (Binkley et al., 1982).

Habitat Restoration

The Project is designed to restore a mosaic of native plant communities represented within the park and thereby improve native wildlife habitat and wildlife diversity. Bird surveys after the 2003 Cedar Fire indicate significant disruption for rare birds such as California spotted owl, red-breasted sapsucker, red-breasted nuthatch, and golden-crowned kinglet. The 3-5 pairs of California Spotted Owls (currently listed by the U.S. Forest Service as a Sensitive Species) previously known present in the park have not been seen since the fire. Populations of small non-migratory birds like the mountain chickadee, California thrasher and rarer species such as Dusty Flycatcher, Yellow-rumped Warbler, Green-tailed Towhee, and Fox Sparrow are under pressure due to the very small amount of mountain-top forest habitat that remains in the park. In addition to restoring live forest cover, the project will retain selected snags and downed dead trees as wildlife habitat.

Address Fire Management Issues

The Project will incorporate activities to reduce the future chances of catastrophic habitat type-conversion wildfires, including 5-year vegetation management work, periodic thinning, and prescribed burning. Past fire suppression management caused increases in stand density and a shift from fire-tolerant trees such as Jeffrey pine, Coulter pine, and Ponderosa pine, to shade-tolerant fire sensitive trees such as incense cedar and white fir (Franklin et al., 2006). Although the planned treatments raise the overall project costs, these activities are critical in order to lower the future risks of destruction of forests and forest habitat, and improve safety for public and staff. Past fire management activities have had positive results. Surveys from sampling in the East Mesa showed a marked contrast between a 521 acre (211 ha) area, known as Tragedy Springs, where a prescribed fire was conducted in early June 2003, and the rest of the East Mesa area where the forest burned at moderate to high severity levels. In the prescribed burn area, the fuel loads were decreased by 40% to 80%. As a result there was much lower mortality of both oaks and conifers during the Cedar Fire within the perimeter of the Tragedy Springs prescribed burn area (Franklin et al., 2006).

Address Exotic Species
The Project will assist in preventing the spread of invasive weeds. The restoration of the forest canopy will reduce the shade-intolerant exotics such as *B. tectorum, B. diandrus,* and other invasive grasses, which will be unlikely to persist in continued great abundance after 5-10 years (Franklin et al., 2006).

Other Project Goals
By accelerating forest recovery, the Project is expected reduce erosion risks, which will protect watershed function, archaeological sites, and natural vegetation of the park. Improved aesthetics and reforestation will also enhance recreation values, such as camping, hiking, equestrian use, and mountain biking. The Project will also serve an education role for the more than 500,000 annual visitors and the onsite Cuyamaca Outdoor School Camp, which is operated by the San Diego County Office of Education. (See Map 12.) Further, the Project will facilitate additional research opportunities, such as studies of seedling survival and the role of ceanothus in soil restoration by the University of San Diego. The University of California at Riverside and the University of California at Davis are among other institutions proposing to support restoration-related research at Cuyamaca to assist in evaluating this and other projects in the park.

B. Project Activities

Project Activities to Date – 2008-2009
Project activities started in January, 2008, with planning, inventory, and GIS mapping by California Department of Parks and Recreation (State Parks) and California Department of Forestry and Fire Protection (Cal Fire) employees for two pilot planting areas. The two areas were prepared and planted in February and March of 2008. These include one 15-acre site on Middle Peak Fire Road, and one 15-acre site on Cuyamaca Peak Road. A total of 7,000 Jeffrey pine seedlings (Seed Zone 998) were planted in each area. (See Map 3.) The work was done by Cal Fire foresters, who supervised inmate crews, and park staff. The site prep work was all done by hand crews using chain saws.

During the summer of 2008, inventory of pre-project live and dead trees and brush on an additional 265 acres was completed in anticipation of Phase I planting. Site preparation work began in November and involved Cal Fire hand crews with chain saws. Approximately 160 of the 265 acres required light to heavy brush removal. In February and March 2009, Cal Fire crews planted 79,500 seedlings on 265 acres. (See Map 3.) In addition, there was supplemental planting of approximately 2,750 seedlings on the 15 acres at Middle Peak Fire Road, and 250 seedlings on 15 acres at Cuyamaca Peak Road due to mortality in the pilot sites from the previous year.

During the summer of 2009, acreage for Phase II planting was mapped at approximately 170 acres and site preparation work began in late August. Approximately 70 acres was prepped for planting using mechanical brush removal (a double track with a brush mastication head) with the balance of required site preparation completed by hand crews. Follow-up monitoring continued through 2009 by State Park staff, Cal Fire foresters, and researchers from University of San Diego. Survival of planted seedlings is on the order of 60 percent after two years, with mortality attributed largely to drought conditions.

Future Project Activities

During 2010-2017, there will be eight additional phases of planting as shown in the chart below. This schedule may be accelerated or delayed depending on funding and other factors such as weather. Future sites selected for reforestation total an additional 2,235 acres. (See Map 4.)

The acreage chosen for the CRSP Reforestation Project are areas with little to no natural tree regeneration as determined by the surveys conducted by Dr. Janet Franklin and her students. In addition to planting areas with little evidence of natural regeneration, acreage was chosen with the following characteristics (Jorgensen, 2009):

- ✓ Occupied by conifer woodland before the Cedar Fire.
- ✓ Accessibility within a quarter mile of road for ease of transport of crew, seedlings, tools, and supplies.
- ✓ Absence of sensitive cultural and natural resources.
- ✓ Suitable soils to support forest vegetation.
- ✓ Suitable slope (under 40%).
- ✓ Distance to nearest viable seed source, with the goal of planting away and upslope from those sources in order to create additional viable seed sources in the park.
- ✓ Aspect, northerly @ 337 to 90 degrees.
- ✓ Elevation (areas above 5,400 feet).
- ✓ "Top down" priority: trees planted at higher elevation provide greater down slope dispersal of seed due to gravity.
- ✓ Density of existing live and dead vegetation in order to plan for necessary site preparation activities.
- ✓ Proximity to public view may be desirable for educational purposes.

Reforestation Project at Rancho Cuyamaca State Park

Reforestation Phases

	Annual Acres	Cumulative Acres	Planting Complete By:
Pilot	30	30	March 2008
Phase 1	265	295	March 2009
Phase 2	170	465	March 2010
Phase 3	280	745	March 2011
Phase 4	285	1,030	March 2012
Phase 5	300	1,330	March 2013
Phase 6	300	1,630	March 2014
Phase 7	300	1,930	March 2015
Phase 8	300	2,230	March 2016
Phase 9	300	2,530	March 2017
TOTAL	2,530		

Of the areas remaining to plant, approximately 1,600 acres will require site preparation work. Due to slope, soil conditions, and Cal Fire crew availability, 800 acres of this total will be prepped with hand crews and 800 acres with mastication contractors. On the acres requiring site preparation, approximately 80% of the brush, consisting largely of ceanothus averaging 4' in height, will be cut, piled, and burned.

Seedlings will be obtained from the Cal Fire Magalia Reforestation Center in Butte County, and the USFS nursery in Placerville. The overall target species mix is 70% Jeffrey pine, 15% Coulter pine, 10% sugar pine, and 5% Incense Cedar. The higher percentage of Jeffrey pine has been chosen because this species is more fire resistant, disease resistant, and has not been regenerating well on its own. Planting work is all done by hand crews, with each 16 person crew planting approximately 4 acres per day. Seedlings may be protected from deer browse with Vexar tubing, and from excessive heat with shade cards to reduce the mortality percentage experienced in the pilot sites. Future plantings are expected to have an average mortality rate of 40% within the first ten years. The project will include a total of 1,062,000 planted seedlings including those required for interplanting due to mortality.

After planting, the sites will be monitored for browse damage and mortality. Planting crews will follow-up with supplemental planting as needed. In addition, within the first 6 years after planting, crews will revisit the project site and remove any brush or grass within a 3' circle around each seedling to enhance growth and minimize vegetation competing for moisture and sunlight.

Within 10 to 15 years of planting, crews will revisit the site for thinning and fuel treatment work. This will involve non-commercial thinning operations where trees are thinned from a young stand with the intent to improve growth potential for the trees left after thinning. The goal is to reduce the stems per acre to a targeted density of 150 or less. In these operations, the crews will saw and lay the trees down on site. Another thinning operation may be required within 30 years of planting to ensure that stand densities are at a level of 120 square feet of basal area or less. During this time period, other fuel reduction treatments such as prescribed fires may occur on specific targeted acres. This is a long-term and essential element of the park's adopted Vegetation Management Plan (Jorgensen, 2009).

C. Use of Native Species and Natural Forest Management

The Project is designed to return the area to conditions of a diverse native forest favorable for wildlife habitat and resistant to catastrophic fire events as well as to create long-term climate benefits. Project activities will improve natural ecosystem processes, enhance native tree species and employ natural forest management practices.

Use of Native Species

Clues about historical native species composition can be gathered from data collected for the Vegetation Type Map (VTM) survey of California (Weislander, 1935 as cited in Goforth and Minnich, 2008). Three VTM plots were located in the CRSP for mixed conifer forest. The stem count of trees over 4" dbh within each plot resulted in a species mix percentage as follows:

Historical Forest Composition - Cuyamaca Rancho State Park				
Data from Weislander Vegetation Type Map (VTM)				
		1932 VTM Plots & Elevation		
		Plot 191A52	Plot 191A53	Plot 191A55
		4900 ft.	5200 ft.	5700 ft.
Species	Common Name			
Calocedrus decurrens	Incense Cedar	37%	41%	5%
Quercus kelloggii	CA Black Oak	9%	14%	22%
Abies concolor	White Fir	27%	4%	31%
Quercus chrysolepis	Canyon Live Oak	9%	35%	2%
Pinus ponderosa	Ponderosa Pine	18%	2%	0%
Pinus lambertiana	Sugar Pine	0%	4%	40%

In 1995, a master's student at San Diego State University, Doug Krofta, completed a thesis which quantified the vegetative structure and composition of a forested area in the park. His study area overlaps some of the areas in the Project (see Map 11) and therefore is generally representative of the pre-Cedar Fire species mix and stand composition of the Project area. The following table shows the results of this thesis work.

Canopy Species
Number of Stems
40 sampled stands - 1995
1141.3 Ha (2,820 acres) northern portion of West Mesa

Species	Common Name	Number Live Stems	% Total stems	Number Live Stems > 40 cm (15.75") dbh	% > 40 cm (15.75") dbh
Quercus chrysolepis	Canyon Live Oak	694	32%	15	7%
Quercus agrifolia	Coast Live Oak	420	19%	26	11%
Pinus coulteri	Coulter Pine	379	17%	58	25%
Pinus jeffreyi	Jeffrey Pine	221	10%	22	9%
Calocedrus decurrens	Incense Cedar	212	10%	25	11%
Quercus kelloggii	CA Black Oak	199	9%	85	36%
Abies concolor	White Fir	40	2%	2	1%
Pinus lambertiana	Sugar Pine	14	1%	1	0%
Pinus ponderosa	Ponderosa Pine	2	0%	0	0%
		2181	100%	234	100%

(Krofta, 1995)

After the Cedar Fire burned almost the entire 24,768 acre (10,023 ha) CRSP in October and November of 2003, a study was initiated by Dr. Janet Franklin of San Diego State University to look at post-fire vegetation dynamics. The results to date from these surveys which were conducted in 2004, 2005, 2007, and 2008 (Franklin et al., 2006, Franklin, 2008, Bergman, 2009) indicate:

- Oak species experienced <14% mortality. Many more trees were "top-killed" but had re-sprouting by the second year.
- Shrub cover (particularly ceanothus) has increased significantly.
- Exotic herbaceous annuals, particularly brome grasses and mustard, have increased significantly.
- Conifer species experienced >95% mortality across the entire park. Although analyses on conifer regeneration are still underway, overall natural regeneration has been generally sparse and predominantly Coulter pine. Surveys in 2008 show some regeneration on about one third of the plots. In addition, some small patches of Incense Cedar and Sugar pine have been found where the fire was less intense.

The Project will have an overall planting mix target of approximately 70% Jeffrey pine (*Pinus jeffreyi*) and 15% Coulter pine (*Pinus coulteri*), 10% Sugar pine (*Pinus lambertiana*), and 5% Incense Cedar (*Calocedrus decurrens*). Specific sites will be planted with appropriate species mix depending on elevation. Seedlings will come from local seed sources (Zones 997 & 998) and planting will incorporate a random pattern with spacing designed to recreate historical healthy stand conditions over time. Combined with the re-sprouting oak and natural regeneration heavier to Coulter pine, white fir, and incense cedar, the overall goal is to return the area to conditions of a diverse native forest favorable for wildlife habitat and resistant to catastrophic fire events. The following table represents an overall guide to planting in the project design:

Cuyamaca Rancho SP Reforestation Project

Target Densities for Mixed Conifer Stands

		Conifer Seedlings/ Stems Per Acre	Basal Area	Percentage Range (Stem Count) Guidelines for Planting			
				Jeffrey pine	Coulter pine	Sugar pine	Incense Cedar
Initial Stocking		300		70%	15%	10%	5%
2 Year Monitoring							
If Less than:	65%	195					
Interplant to a density of:	100%	300		70%	15%	10%	5%
4 Year Monitoring							
If Less than:	65%	195					
Interplant to a density of:	100%	300		70%	15%	10%	5%
6 Year Monitoring							
If Less than:	50%	150					
Interplant to a density of:	67%	200		70%	15%	10%	5%
10 - 15 Year Monitoring							
If More than:	67%	200					
Thin to:	50%	150					
If Less than:	33%	100					
Interplant to:	50%	150		70%	15%	10%	5%
20-30 Year Monitoring:							
Goal Is:	33%	100	approx. 100				
If Less than Goal Interplant to:	50%	150					
If More than Goal Thin to:	40%	120		70%	15%	10%	5%

notes:

At 300 seedlings/acre planting, average distance between seedlings is 12'

Coulter pine seedlings will be planted away from areas frequented by the public due to their large cones which pose a falling hazard

Incense Cedar, Sugar pine, and White Fir are expected to show higher natural regeneration over time

Sugar pine will be planted in higher elevations as stands develop out ten years or more

Restored forest stands will be evaluated as they grow for health and vigor; planting and thinning will depend on many factors including crown closure and fuel issues.

Natural Forest Management Practices

The CRSP is operating under a comprehensive Vegetation Management Plan (Jorgensen, 2009). This plan addresses the overall issues of park vegetation, habitat restoration and management into the future. The CRSP Reforestation Project has been specifically designed to meet and exceed the objectives for vegetation management in this plan. The overall goal of the plan is to maintain ecological functioning by: a) reestablishing forest canopy, and b) maintaining or enhancing biodiversity (Jorgensen, 2009). At this time, there are no harvest levels planned in the project area other than those associated with thinning related to fuels and forest health management. This plan is sanctioned and monitored by the California Department of Parks and Recreation and the authority for executing the plan comes from California Public Resources Code (Sections 5003, 5019.5, and 5002.2) and the Department Operation Manual Policy (DOM Sections 310, 1104, and 700).

D. History and Description of Project Location

The following is summary information describing the history and features of the project location: (Jorgensen, 2009)

- *Forest Project Boundaries*
  The Project is located in the 24,768 acre Cuyamaca Rancho State Park (CRSP) and the project boundaries include several non-contiguous areas totaling 2,530 acres. (See Maps 1, 2, 3, and 4.)

- *Forest Area in the Park*
  The forest area in CRSP including Mixed Conifer, Pine, and Oak Woodland encompasses 15,000 acres of the 24,768 acres in the park. (See Map 10.)

- *Latitude/longitude*
  Latitude: 116.57.30 W, Longitude: 32.56.00 N (See Maps 13, 14, 15, and 16.)

- *Existing Land Cover and Land Use*
  Currently the 24,768 acre park consists of 13,200 acres of designated wilderness, 2,500 acres of cultural preserve, and the balance in scenic open space and developed acreage. The Project sites are all in the wilderness designated acreage of the park. The developed areas of the park include over 160 campsites, shop and storage buildings, sector office, visitor center, park store, an equestrian camp, a school camp, nine permanent and one seasonal residence and one historic house on property not yet open to the public. The average year-round occupancy for the six year fiscal period 2002-2008 for both campgrounds was 97,449 persons. Average annual day use for that period was 292,637 persons. (See Map 12.)

- *Historical Land Use*
  The land within the boundaries of CRSP was occupied by the Kumeyaay Indians in prehistoric times. The Kumeyaay were hunter-gatherers who followed a seasonal subsistence pattern managing the land for both plant and animal production. This Native American traditional use ended in the 1830s and cattle grazing occurred annually from around the 1840s until the 1950s largely in the Montane Meadow/Grassland vegetation type of CRSP. The Stonewall Mine, established in 1870, included a small community of 500 residents. During this period, much of what is now the park was owned by Robert Waterman, the Governor of California from 1887 to 1891. The rancho property changed hands several times until 1933 when Mr. and Mrs. Ralph M. Dyar sold it to the state for half of its appraised value to create CRSP. During the 1930s CRSP's campgrounds, fire roads, erosion prevention, picnic areas and residences were built with the

assistance of the Civilian Conservation Corps. Historical evidence indicates that low intensity natural/Native American fires were common in the 1800s. Since the 1950s, fire suppression management in the park caused changes in the natural age class structure, and alteration of the extent and distribution of many species. Fuel accumulated in the absence of periodic fires in the form of invasion by chaparral, increase in woody shrubs, dense thickets of trees and accretion of woody debris (Jorgensen, 2009).

- *Topography*
  CRSP is located in the Cuyamaca Mountains, within the Peninsular Ranges of Southern California. Roughly two-thirds of CRSP is steep rugged terrain and the remainder is fairly level and rolling. There are six named peaks over 5,200 feet (1,586 m), the highest being Cuyamaca Peak. Elevations range from 3,400 feet (1,036 m) to 6,512 feet (1,985 m). (See Maps 13, 14, 15, and 16.)

- *Forest Vegetation Types*
  The coniferous forest components for the project area in CRSP include 3 vegetation types with native tree species components as follows: (See Map 10.)
  Mixed Conifer Forest is generally found above the 1,650 m (5,400 ft) elevation on major peaks in the western portion of CRSP. The dominant species are white fir, incense cedar, Jeffrey pine and sugar pine.
  Pine-Oak Woodland is generally found below the 1,650 m (5,400 ft) elevation, depending on slope and aspect, and is scattered throughout CRSP below the higher peaks where it intergrades with chaparral and other vegetation types. The dominant species are Jeffrey pine, Coast Live oak, Canyon Live oak, California Black oak and, to a lesser degree, Coulter pine.
  Pine Woodland is generally found below the 1,220 m (4,000 ft) elevation, with limited distribution in West Mesa and a small area south of East Mesa. The dominant species are Coulter pine and Jeffrey pine.

- *Site Classes*
  A sampling effort was conducted in November 2007 to generate site index values that would provide the basis for modeling reforestation and growth. Sample points were established within a cross-sectional area that represents the dominant aspect and elevation in which conifers were once found. Sampling included tree height, species, diameter and age. (See Map 20 for soil types.)

- *Watercourses in Area*
  CRSP is contained within six watersheds. The most prominent among them is Sweetwater River, a perennial creek that flows southwest through the heart of CRSP. It receives many of CRSP's drainages such as Stonewall Creek, Harper Creek, Cold Stream, Japacha Creek, Juaquapin Creek, Arroyo Seco and Descanso Creek. The percent of total park area covered by each watershed is: Sweetwater River: 63 percent; Boulder Creek: 23 percent; King Creek: 8 percent; Pine Creek: 5 percent, and Cedar Creek: 1 percent. Lake Cuyamaca, which drains into the San Diego River, is adjacent to CRSP and forms 3.6 miles (5.8 km) of the northern CRSP boundary. The Project includes sites located in all of the watersheds.

- *Land pressures and climate regime*
  The climate of the Park is Mediterranean consisting of warm, dry summers and cool winters. Most precipitation (87 percent) occurs between November and April with periodic rain in late summer. (See Map 19.) The 106-year average annual precipitation measured at Lake Cuyamaca Dam (elev. 4,640 feet) is 37.5 inches (95.27 cm). Precipitation is likely to be considerably higher on peaks up to 2,000 feet above the lake. Temperatures range from near 100°F in summer to well below freezing in winter. The biggest threat to any vegetation management at the park is wildfire. Prevailing winds are from the west, but high velocity Santa Ana offshore winds from the northeast generate extremely serious fire conditions in fall,

winter and early spring. Danger from wildfire is highest in the dry, windy conditions of September through November. With the land in a state park status, there is little pressure for any type of further conversion. There are no plans for additional utility lines or major roads through the park.

E. What Would Happen in the Absence of this Project?

The purpose of the following is to provide an assessment of the likely landscape scenario related to carbon stocks that would develop in the absence of this project. This analysis takes into consideration the current site conversion to ceanothus/chaparral, the capacity of the project area for natural conifer regeneration, and the scope of vegetation management activities that would occur without the project.

Site Conversion to Ceanothus/Chaparral

As stated in Dr. Janet Franklin's 2008 report to DPR, the results of survey data at CRSP showed that "…the greatest changes resulting from four years of post-fire vegetation dynamics in these formerly-forested stands were an overall increase in shrub cover, especially in sites dominated by *Ceanothus palmeri*, from 3% to 31%, and the dramatic increase in the cover of exotic herbaceous species, primarily annual grasses from 3% to 40%" (Franklin, 2008). The Vegetation Management Plan makes the following statement in explaining constraints to restoration of mixed conifer forest (MCF), "Stand replacement of MCF by oak woodland and shrubs is underway in large portions of this former habitat. It could take decades or centuries to return to MCF and may not due to long-term climate change" (Jorgensen, 2009). In the absence of the Project, shade intolerant brush and exotic annuals would be expected to persist for 50-years or more as the chaparral matures and then becomes decadent, allowing the development of an overstory forest cover where a seed source for forest species is present. Given the lack of evidence for natural conifer regeneration specific to the project sites, this is expected to take longer than a typical succession timeline.

Natural Conifer Regeneration

The best available data on overall conifer regeneration in the park comes from the surveys done by Dr. Janet Franklin and her students after the 2003 fire. These include surveys taken on 38 forest stands in the park in 2004 and 2005, and then revisited in 2007 and 2008 (Franklin et al., 2006, Franklin, 2008, Bergman, 2009). Dr. Franklin's survey results to date show some slow and patchy natural forest regeneration is occurring in the park. Naturally generated seedlings were almost all Coulter pine and showed up in approximately 1/3 of the plots, primarily at lower elevations. In those plots, the average density was 28 juveniles per ha (11.3 per acre). Some dense patches of Incense Cedar seedlings were also found in one of the 40 stands surveyed as well as some limited regeneration of Sugar pine (Franklin et al., 2006). These species were found typically in areas that experienced lower burn intensity and some retention of older trees. Dr. Franklin states "…the potential reestablishment of mixed conifer forest on the highest peaks of CRSP is likely to be very slow, limited in extent, and compromised by future fires and climate change" (Franklin, 2008). The Project area consists of a mosaic of sites across the landscape chosen for suitable conditions for conifer establishment and where natural regeneration is not occurring. The 2008 pre-project inventory work showed an average of less than one conifer seedling recruitment per acre on the project sites.

Scope of Management Activities without the Project

In the absence of the Project, it is unlikely that any sort of comprehensive reforestation would take place in the park. There are statutes that give the Department of Parks and Recreation the authority to manage the park (Public Resources Code Section 5001) and to protect it from damage (Public Resources Code 5008). However, there are no statutes, policies or guidelines that require or fund restoration or reforestation actions. The attached letter from Richard G. Rayburn, Chief of Natural Resources Division, California Department of Parks and Recreation explains that the department responds to only three post-fire circumstances. (See Exhibit 1.) These include mitigation of severe erosion threats, mitigation of hazards such as removal of hazardous trees, and control of exotic species invasion. Of these three possibilities, only mitigation of hazards is included in the reasonable scope of management activities that would have occurred without the project.

F. Forest Carbon Offset Quantity and Accounting

The climate benefits of the Project come from accelerated restoration of the forested landscape and include the ability to reduce atmospheric carbon dioxide at a rate of 1-3 metric tonnes per acre per year with the potential storage of approximately 200 metric tonnes or more of carbon dioxide equivalent per acre in the long term. The chart below displays the estimated emissions reductions offsets from the project activity. Based on a project area of 2530 acres, the 100-year climate benefit would be offsets in the range of 440,000 to 700,000 metric tonnes of CO_2 equivalent (CO_2e).

Estimated Range of CO_2 Reductions due to the Project Activity CRSP Reforestation Project	
	Additional CO_2e Metric Tonnes (Net of Secondary Effects and Buffer Pool)
During Project Years	Total Project - Estimated CRTs
0-20	10,000-15,000
20-30	20,000-35,000
30-40	30,000-50,000
40-50	40,000-70,000
51-100	340,000-530,000
Total Years 1-100	440,000-700,000

The Project is eligible under the Climate Action Reserve's updated Forest Project Protocol Version 3.1 as a Reforestation Project. The Project was submitted in October 2009 and is currently listed on the Climate Action Reserve's Web Site (http://www.climateactionreserve.org/how/projects/) under project number CAR505. This is the first project to be listed under the revised Forest Project Protocol (Version 3.1) of the Climate Action Reserve implemented on public lands and focused on reforestation following a significant natural disturbance.

A sampling methodology for the project was developed in 2008 to acquire data necessary to account for effects on carbon inventories associated with the project. One goal of the approach was to obtain pre-project carbon inventory estimates that are +/- 5% (90% confidence interval). Another goal was to establish a set of plots that can monitor changes associated with management activities over time and assist in verifying the inventory estimates to third parties.

Permanent sample plots have been systematically placed across the entire CRSP in a grid that is spaced at 5 chains by 5 chains, which represents a plot for every 2.5 acres. The plot locations will become permanent locations within the park for any current and future monitoring needs. Each plot is identified by a row and column number and will be identified with latitude and longitude coordinates. (See Map 18.)

Data collection includes the following carbon pools:

> Standing Trees: Data are collected on standing trees > 5" dbh including species (conifer and hardwood), diameter, height, height-to-crown base, status (live, dead snags, live snags), cavities and nests.
>
> Lying Dead Wood: Data are collected on lying dead wood > 5" dbh, minimum length 8' including species, diameter, length, and status (hard or soft).
>
> Regeneration: Data are collected on trees < 5" dbh including species, and size class (0-2.9"dbh, 3-5.9"dbh).
>
> Shrub Cover: Ocular estimates are made and recorded on shrub height and density.

In order to meet the criteria for registering CO2e tonnes, known at the Climate Action Reserve as Climate Reserve Tonnes (CRTs), Parks is able show that the CRTs are additional to the likely scenario that would develop without the Project. In the absence of the Project, the current site conversion to ceanothus/chaparral would continue and the natural reestablishment of mixed conifer forest would be slow and limited in extent. Without the Project, it is unlikely that that any sort of comprehensive reforestation would take place in the park as there are no statutes, policies or guidelines that require or fund restoration or reforestation actions, and natural seed sources appear to be limited due to the extreme heat of the fire.

The Project has no activity-shifting "leakage" that occurs when activities to plant trees shift agriculture pressure or grazing pressure to other areas. The Project area is located on acreage which contained forest prior to the 2003 Cedar Fire. The Project does have secondary effects from the non-biological emissions associated with use of mobile equipment and chain saws involved with the site preparation work and interim vegetation management work. These effects are calculated at 578 tonnes CO2e for the initial planting phases of the project and an additional 393 tonnes CO2e for the follow-up vegetation management work.

The Climate Action Reserve has three requirements related to ensuring the permanence of the credited CRTs. These will also be satisfied by the Project and include: (1) a required monitoring, reporting and verification plan; (2) an executed Project Implementation Agreement with the Climate Action Reserve; and (3) the maintenance of an appropriate buffer pool or insurance contract. The risk assessment for the Project is expected to result in a project risk rating of 15% to 20% largely due to its location in an area of high fire potential. The levels of shrubs and downed wood in the non-project areas of the park will continue to cause susceptibility to high intensity fire.

G. Monitoring, Reporting, and Verification

The Project incorporates systematic monitoring, reporting, and verification to assess the progress towards the park's restoration goals, to meet the requirements of the Climate Action Reserve's protocol and to ensure that credited reductions are sustained for 100 years. Initial third party verification for project eligibility and impacts of site preparation activities will occur within 30 months of project submittal. Annual verification of inventory estimates from seedling growth, including periodic site visits by third party verifiers, will begin 5-10 years after planting is completed.

Annual field work will provide reporting of any disturbances such as wildfire, diseases, insect infestation, seedling mortality, or any other evidence of forest health issues. Monitoring results and observations will lead to adjustments on a site by site basis to reach target species mix and density goals (See Table in

Section C.). These adjustments will include supplemental planting, vegetation treatments, thinning and prescribed burning.

When inventory verification is initiated, 5-10 years after planting is completed, inventory foresters and State Park staff will complete an annual field inventory of project carbon stocks representing at least 10% of the project area, or approximately 260 acres, utilizing an inventory methodology that has been developed for the project. The annual inventory work is expected to engage between two and three park staff and Cal Fire foresters for one month each year. This field data combined with growth models will allow for annual reporting of carbon stocks by individual carbon pools and the subsequent registration and verification of CRTs.

H. Project Budget and Funding

The 10-Year Budget for the Project is forecast at $6.5 million and the 20-Year Budget, which includes the majority of the follow-up vegetation and fire management work, is forecast at $9.4 million. Categories of spending are shown in the summary table below.

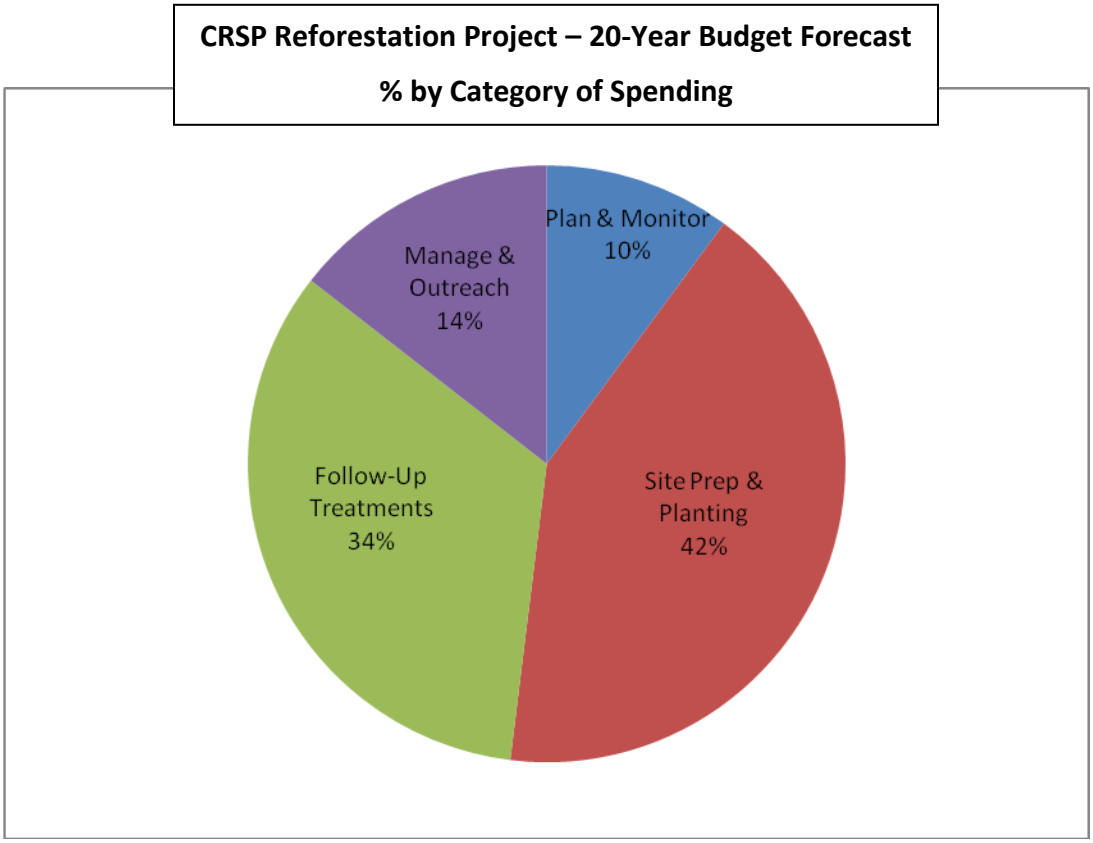
Cuyamaca Rancho State Park Reforestation Project

10-Year and 20-Year Budget Forecast

(Beginning Fiscal Year 2007/2008)

Activity	10 YRS TOTAL PROJECT	20 YRS TOTAL PROJECT
# acres site prep	1,774	1,774
# acres initial planting	2,530	2,530
# acres interplanted	2,230	2,530
Total # seedlings needed for planting	1,026,540	1,062,540
Mapping & Planning	$207,601	$319,801
Archaelogy	$92,636	$92,636
Forest Inventory and Survey Work	$280,000	$440,000
Site Preparation	$1,636,700	$1,636,700
Seedlings	$601,461	$623,061
Planting & Interplanting	$869,053	$891,973
Seedling Protection	$769,905	$796,905
Watering	$90,000	$108,000
CCAR Registration and Verification Fees	$55,500	$102,500
First 2-yr Follow-Up Veg Treatment	$967,000	$1,258,000
10 yr Thinning & Fuels Treatment	$0	$1,800,800
Project Management & Public Outreach	$916,367	$1,367,867
TOTALS	**$6,486,222**	**$9,438,242**
Average per acre	$2,564	$3,731
Average per tree	$6.32	$8.88

A majority of the budget, 75%, is forecast for the site preparation, planting, and follow-up treatments on the ground. Planning, archaeological work, ongoing inventory, monitoring, and verification total 10% while project management and public outreach total 14%.



The first year of the Project was funded through money available in grants from Cal Fire, California Department of Parks and Recreation, and donations from non-profit groups and corporations such as Odwalla (http://www.odwalla.com/). The Project will implement additional project phases through an innovative partnership with American Forests. American Forests, (www.americanforests.org), is funding a significant portion of the project, with resources provided through a legal settlement between the State of California and Conoco-Phillips. In addition, the Project has received commitment for a generous donation from the "Reforest California" campaign sponsored by Coca-Cola and Stater Bros. Supermarkets. California Department of Parks and Recreation is actively pursuing additional partnerships to ensure full 20-year funding of this Project.

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EXHIBIT 1: Richard G. Rayburn's 3-25-2009 Letter

State of California • The Resources Agency Arnold Schwarzenegger, *Governor*
DEPARTMENT OF PARKS AND RECREATION • P.O. Box 942896 • Sacramento, CA 94296-0001 Ruth Coleman, *Director*

916-653-6725

March 25, 2009

Ms. Nancy Budge
[redacted]

Dear Ms. Budge,

Throughout its history the California Department of Parks and Recreation has treated unscheduled wildland fires on its property as a natural disturbance factor. The department responds to only three post fire circumstances: 1) mitigation of severe erosion threatening park or private investments, 2) mitigation of hazards necessary to reopen the park to visitors such as removal of hazardous trees, and 3) more recently, control of exotic species invasion.

In the absence of the Cuyamaca Rancho State Park Reforestation Project, it is unlikely that that any sort of comprehensive reforestation would take place and it is conceivable that we would be faced with decades of a brush dominated park. The Department has never budgeted for emergency funds for post fire mitigation; instead relying on FEMA reimbursement, where available to accomplish the policy directives mentioned above.

The entire budget for Colorado Desert District FY08/09 was only $6.3 million. Given the estimated cost of the project, it is unlikely that there would ever be enough funding in the District budget to complete even a small percentage of the acreage. In 2008, the District had $100,000 of additional funding available and along with a sizable and generous contribution of technical expertise and inmate labor from Cal Fire in order to plant 40 acres as a pilot test. It is difficult to conceive how we could take it much further over the next four years given the limitations of funding and historical needs for existing programs in the agency.

The most significant effect of the Cedar Fire is the high fire intensity in the sky island mixed conifer groves on the 6 mountain peaks within the park. As each of these populations are isolated by elevation and genetically unique, the Department is very concerned that this fire has eliminated most or all of the aerial and ground stored conifer seed, especially for the pine species. This project is time-critical for restoring the genetic stock of these important ecosystems at this time.

Large wildland fires appear to be occurring more frequently. Even with the successful reforestation of these sky island populations, another fire on these mountain peaks may kill planted trees before they reach sexual maturity. Consequently, tree thinning and fuel reduction within the planted forests is essential to the long term success of this project. We are fully supportive of the design, maintenance, and monitoring of this project and will integrate these aspects into the long-term management of the park.

Rick Rayburn

Richard G. Rayburn, Chief
Natural Resources Division
California Department of Parks and Recreation