Again, this statement is incorrect because GC Section 56133 pertains to the ability of an agency, whether a city or a special district, to provide service(s) outside its boundaries - not LAFCO's annexation process.

If the project anticipates water service through Alternative #1, the project will need an Out-of-Agency Agreement/Contract with the City of Big Bear Lake (since the DWP is a department of the City) to extend water service outside its jurisdiction. This service agreement will have to be reviewed by LAFCO prior to approval, pursuant to the provisions of GC Section 56133. However, one of the requirements of providing service outside an agency's jurisdictional boundaries, as outlined in GC Section 56133 (b), is that the area must be within the agency's sphere of influence. Therefore, in order to comply with the provisions of GC Section 56133, the project area must first be added to the City of Big Bear Lake's sphere of influence. This sphere expansion proposal for the City will require LAFCO approval.

1 CONT

Based on these comments, LAFCO suggests the following corrections to the Draft EIR:

Water Service Options and Infrastructure

There are currently three (3) separate water service options for the 2011 Alternative Project. Under Alternative #1, significant improvements to the Big Bear Department of Water and Power (DWP) upper Fawnskin pressure zone are necessary to provide water service to the site. The three ground water production wells located within the Project site would be deeded to the DWP at the time the tract map is recorded. **The project site is currently not within the water service area of the DWP. Therefore, Alternative #1 proposes to provide water service to the project through an out-of-agency service agreement, pursuant to Government Code Section 56133. This service agreement with the City of Big Bear Lake (since the DWP is a department of the City) will have to be reviewed and approved by the Local Agency Formation Commission (LAFCO), pursuant to the provisions of Government Code Section 56133.** ~~Annexation to the DWP's authorized service area is required for DWP to be the water service provider~~. DWP has conducted a Water Feasibility Study (Alda 2007), and provided a conditional will serve letter to the Applicant. However, ~~the majority of~~ the Project site is ~~outside of the DWP authorized service area as well as~~ **currently not within** the City's Sphere of Influence. **Therefore, in order to comply with the provisions of Government Code Section 56133,** ~~DWP cannot provide water service without first complying with the provisions of Government Code Section 56133, which pertains to the Local Area Formation Commission (LAFCO) annexation process. In order for the DWP to provide water service to the Project site and to own and operate the 2011 Alternative Project's water system,~~ LAFCO ~~would~~ **will also** have to approve an expansion of the City of Big Bear Lake's Sphere of Influence to include **the project site before it can consider the City's request to serve outside its boundaries.** ~~the entire existing DWP Water Service Area in Fawnskin as well as the entire Project site~~. The developer would be required to construct the on-site and off-site facilities as described in the DWP's Water Feasibility Study (Alda 2007), as amended by the 2011 update, as discussed below.

2

Thank you again for allowing us to provide comments to the Revised and Re-circulated Draft EIR No. 2 for the Moon Camp Project. If you have any questions concerning the information outlined above, please do not hesitate to contact me or Samuel Martinez,

Assistant Executive Officer, at (909) 383-9900. Please maintain LAFCO on your distribution list to receive further information related to this process. We look forward to working with the County and the City (and its DWP) on the future processing of this project.

Sincerely,

KATHLEEN ROLLINGS-McDONALD
Executive Officer

cc: Reggie Lamson, General Manager, City of Big Bear Lake DWP

Local Agency Formation Commission (LAFCO)

Response to LAFCO-1
The commenter provides introductory comments to preface the letter. No response is necessary.

Response to LAFCO-2
The commenter provides suggested revision to text provided within Section 1, Project Description, of the RRDEIR No. 2, page 1-1. Subsequent to circulation of the RRDEIR No. 2 for public review and receipt of the comment letter from the commenter, the Project Applicant has secured the services of a water supply agency to provide potable water service. As discussed in the RRDEIR No. 2, County of San Bernardino CSA 53C has authority to provide water and wastewater services to the Project site. However, CSA 53C does not have potable water facilities in the Big Bear Valley and are unable to economically provide water service to the Project site. By way of an Outside Service Agreement for Potable Water Services between CSA 53C and the BBDWP, BBDWP has agreed to be the water supplier to the Project. Consistent with the analysis in the RRDEIR No. 2, DWP will own the water distribution facility as well as the on-site groundwater wells. Appropriate changes to the EIR text have been made and included in the Final EIR Errata section.

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Slowik, Matt - LUS

From: Drew Feldmann [drewf3@verizon.net]
Sent: Tuesday, February 07, 2012 4:07 PM
To: Slowik, Matt - LUS; akeats@biologicaldiversity.org; karsten33@gmail.com; kimffloyd@verizon.net; JBrandt@dfg.ca.gov; Kelly, Christine - LUS; Derry, Neil; Watson, George; kstitt@earthlink.net
Subject: Moon camp
Attachments: Audubon RDEIR MoonCamp comments 2-12.pdf

Mr. Slowik,

Please see the attached comments.

Thank you.

Drew Feldmann
Conservation Chair, San Bernardino Valley Audubon Society

San Bernardino Valley Audubon Society
P. O. Box 10973, San Bernardino, California 92423-0973

February 7, 2012

Matt Slowik
County of San Bernardino
Land Use Services Department, Advanced Planning Division
385 North Arrowhead Avenue 1st Floor
San Bernardino, California 92415-0182

By email to: mslowik@lusd.sbcounty.gov

Subject: Revised and Recirculated Draft Environmental Impact Report No. 2
MOON CAMP 50-Lot Residential Subdivision, TT No. 16136, SCH #2002021105

Dear Mr. Slowik,

The *San Bernardino Valley Audubon Society* ("Audubon") appreciates the opportunity to comment on the Revised and Recirculated Draft Environmental Impact Report No. 2 (RDEIR) referenced above for the Moon Camp development project and marina in the Fawnskin area of Big Bear Lake.

Audubon is a nonprofit all-volunteer organization that represents some 2000 residents of the Inland Empire, who greatly enjoy the public benefits of the San Bernardino National Forest as one of the most outstanding natural areas of Southern California. Many of our members reside in the mountain area, and our Audubon Society regularly schedules eagle observation and other outings in the Big Bear Lake area. We have consistently advocated for high standards in safeguarding the unique character and natural resources of the mountain environment in compliance with all the laws and policies governing the County of San Bernardino. 1

The adverse impacts resulting from the proposed project would be significantly detrimental to the community of Fawnskin, to the rare North Shore open space, the citizens of Big Bear Valley, the San Bernardino National Forest and the general public. Given the latest facts on recurring fire hazard in the mountain area, overdraft of local water resources, insupportable infrastructure, major public safety issues related to overdevelopment and limited evacuation capability, and the excessive fragmentation of wildlife and National Forest resources, it is disturbing that the full project impacts have not been adequately represented or disclosed in the RDEIR. 2

The RDEIR acknowledges that future development proposals must be judged on a proven ability to provide adequate infrastructure and maintain consistency with the goals and policies of the 2007 Bear Valley Community Plan. However, the proposed project and required zoning change are not consistent with the community plan. Neither has the project fully demonstrated that adequate infrastructure in respect to water availability and fire protection services (including mountain-wide evacuation plans) is available to serve the proposed housing development. 3

<u>Failure to Adequately Analyze the Proposed General Plan Amendment</u>

The RDEIR fails to adequately address the most important component of the 50-unit proposal, which is the unsupportable request to amend the County General Plan to eliminate the existing 4

low-density rural land use designation of the site. The proposal needs to be recognized as an unwarranted change that would open the door to a host of adverse consequences that presently are wisely prohibited. As this fact is not accurately disclosed or acknowledged in the RDEIR, Audubon believes that no valid justification for approving project has been provided. 4 CONT

Criteria for a General Plan Amendment

The following is the Development Code criteria for a General Plan amendment that proposes to change to the existing land use zoning designation.

86.12.060 Findings and Decision
An amendment to the General Plan, this Development Code, a Community Plan, or an Area Plan may be approved only if all of the following findings are made, as applicable to the type of amendment.

(a) Findings for General Plan, Community Plan, or Area Plan amendments.

(1) If the amendment pertains only to changing a portion of the text of the plan, the Board shall first make both of the following findings:

(A) The proposed amendment is internally consistent with all other provisions of the respective plan, the General Plan or an applicable specific plan; and

(B) The proposed amendment would not be detrimental to the public interest, health, safety, convenience, or welfare of the County.

(2) If the General Plan amendment proposes to change a land use zoning designation from one zone to another, the Board shall first make the two findings above plus all of the following additional findings:

(A) The proposed land use zoning district change is in the public interest, there will be a community benefit, and other existing and allowed uses will not be compromised; 5

(B) The proposed land use zoning district change will provide a reasonable and logical extension of the existing land use pattern in the surrounding area;

(C) The proposed land use zoning district change does not conflict with provisions of this Development Code;

(D) The proposed land use zoning district change will not have a substantial adverse effect on surrounding property; and

(E) The affected site is physically suitable in terms of design, location, shape, size, operating characteristics, and the provision of public and emergency vehicle (e.g., fire and medical) access and public services and utilities (e.g., fire protection, police protection, potable water, schools, solid waste collection and disposal, storm drainage, wastewater collection, treatment, and disposal, etc.), to ensure that the proposed or anticipated uses and/or development would not endanger, jeopardize, or otherwise constitute a hazard to the property or improvements in the vicinity in which the property is located.

A Zone Change is Not an Entitlement

The RDEIR misleadingly treats the required General Plan Amendment as if the proposed zoning change were an automatic entitlement. That is not the case, and this fact should be acknowledged more explicitly in the RDEIR. The proposed General Plan Amendment for a zone change must satisfy the criteria for specific findings (indicated above), which the Moon Camp project fails to meet, when all factors are objectively and responsibly considered. The RDEIR fails to accurately disclose the full detriment of the project "to the public interest, health, safety, convenience, or welfare of the County" in the context of the existing public interest

protected by the current zoning designation, which should be the baseline against which all significant losses and detrimental consequences resulting from the project are measured and disclosed.

The fundamental issue is not whether the revised proposal is less terrible than any prior proposal but whether it is appropriate for the actual site and surroundings, given the strong validity of the existing low-density zoning. In this case the No Project Alternative is the most legitimate option, because it is the only one that fully conforms to all provisions and policies of the County General Plan and is also in the public's best interest, since it does not require a major and detrimental zone change amendment. 5 CONT

Insofar as a General Plan Amendment for a zoning change is not an automatic prerogative of land ownership, it should not be treated as an entitlement by the RDEIR. It entails an exceptional action on the part of the County, conditioned upon what best serves the overall public interest based on the criteria from the Development Code cited above. The cursory and dismissive treatment of this issue by the RDEIR unduly minimizes its importance by failing to provide an accurate analysis and proper disclosure as required.

Misconception of the "Holding Zone"

The RL-40 land use designation is identified as a "Holding Zone" within the Bear Valley Community Plan, which states: future development proposals (such as Moon Camp) within the RL-40 designation will be considered based on a demonstrated ability to provide adequate infrastructure and maintain consistency with the goals and policies of the 2007 Community Plan. (Page 1-2)

The Moon Camp project assumes all rural zoning on private land in the National Forest is only a temporary "holding zone" meant to be changed as soon as a specific project for the site is proposed. This concept was plausible 25 years ago, when the prior General Plan was being drafted, a time when substandard infrastructure, fire danger and forest impacts were not fully recognized to be the major problems they are today. Because conditions are worse than they were 25 years ago, rural zones are greatly needed to preserve the forest and serve as a buffer. 6

While all zoning is theoretically subject to potential amendment in general, it is by no means a routine practice or guaranteed procedure. The context of the surrounding area and the public interest are paramount considerations, especially inside the overdeveloped San Bernardino National Forest. The holding zone concept does not alter the fundamental test required for a zoning change or diminish the meaningful basis for keeping an existing rural designation intact. In the case of the Moon Camp project a zone change would not be in the public interest.

Perspective of the Bear Valley Community Plan

It is helpful in this context to reconsider the some of the background perspective and intent of the citizens of the Big Bear Valley that informs the content of the Bear Valley Community Plan.

B. PRESERVATION OF COMMUNITY CHARACTER

Residents feel that the high quality of life experienced in their neighborhoods today should not be degraded by growth and the subsequent impacts of traffic congestion, strains on infrastructure and threats to natural resources. The clean air, ambient quiet, dark skies, abundant wildlife and diverse natural vegetation are highly valued by residents as well as by the visitors who frequent the area. Residents are concerned about the conversion of natural open space to development, and particularly to a type of development that detracts from the natural 7

setting and rural-mountain character currently enjoyed by the community. The preservation of the community's natural setting, smalltown atmosphere and rural mountain character becomes important not only from an environmental perspective but from a cultural and economic point of view.

C. INFRASTRUCTURE

The Bear Valley area is faced with the potential for significant growth. Residents are concerned with the impacts that future growth and development will have on an infrastructure system they sense is already strained. The community's primary concerns centered around water supply and traffic and circulation.

BV1.3.3 COMMUNITY PRIORITIES

The community's priorities that have influenced the goals and policies included within this community plan are: (a) environment; and (b) community character.

ENVIRONMENT

A key consideration in developing this plan has been acknowledging the potential impacts that future development will have on the area's valued natural resources. The goals and policies included in this community plan emphasize the protection of these sensitive resources, the integration of natural vegetation and open space, and development that is scaled and designed to enhance the natural surroundings. In public workshops held to develop the General Plan and the Bear Valley Community Plan, the public has identified three principle planning issues and concerns to be addressed in the plan: 7 CONT

A. A community in a forest – the natural environment prevails

B. Ensure no conflict in the interface between the national forest and adjacent land uses

C. Conservation of natural resources and scenic beauty

D. Acknowledge service and infrastructure capacity and limitations of the area, particularly roads and water, to serve future development.

COMMUNITY CHARACTER

The Bear Valley Community Plan area will continue to experience growth as a variety of factors continue to drive people to migrate from more urban areas to areas attractive for their rural nature. Additionally the area will continue to attract attention as a recreation destination. As the valley develops, it will be imperative that adequate services and infrastructure are provided, that all improvements reflect the needs of locals as well as visitors, that all development maintains a sense of connection to the natural environment and that the smalltown, rural-mountain character of the community is preserved. Relating to community character, the public has identified the following five issues and concerns to be reflected and addressed in the community plan:

<u>Zone Change Proposal Lacks Public Benefit</u>

If Moon Camp's zoning conflict with the General Plan were erased by means of a special amendment, it would definitely grant a major benefit to the property owner (e.g. increasing allowable density to boost sales potential). But it would not be in the public interest. While granting special favor to the developer, such action at the same time would result in detrimental impacts on the public by stripping away long protected advantages of aesthetic open space, National Forest buffer area, greater fire safety, bald eagle habitat and other similar values compatible with the surrounding public lands. Is that justifiable in a National Forest? 8

Audubon disagrees with the erroneous opinion in the RDEIR, namely that changing the existing land use designation to accommodate a major development would merely result in a *less than significant* impact to the local community. The local community has been speaking out strongly

on its own behalf for nearly a decade against eliminating the existing General Plan safeguards. Below is an excerpt from the community plan on this issue.

A. Community Character (Land Use Issues/Concerns)

During public meetings held by the County, residents expressed concerns regarding growth and the impacts of that growth on the character of their community. The recreation opportunities and the intrinsic rustic qualities of the mountain environment continue to be attractive to a variety of people. Bear Valley offers a mountain lifestyle that attracts residents who choose Bear Valley as a quiet place to retire, residents who live in Bear Valley to escape from urban environments but continue to commute off the mountain for work, residents who enjoy the rural lifestyle and make a living in the area, and part-time residents who own vacation homes in the area. The mountain character is defined by the natural surroundings, large open spaces, recreation opportunities, limited commercial and industrial uses and physical development that complement the area's natural qualities.

The character of the plan area is further defined by the predominance of single-family development. The lot sizes and densities vary within the different community sub-areas, however despite these differences, most residents want to maintain the intensity of development within their individual communities as it currently exists. Additionally, the different resident groups and even non-resident visitors share the primary concern to preserve the natural beauty and mountain character of the plan area.

8
CONT

Zoning is not supposed to be changed, when such change would prove detrimental to the greater public interest, health, safety, convenience, or welfare of the County. The RDEIR fails to adequately address this particular Development Code requirement, instead focusing only on the limited (but also invalid) assumption that adding more houses would constitute a community benefit. To the contrary more houses would not be a positive addition within a National Forest. The San Bernardino National Forest is already the most overdeveloped National Forest in the country with the highest percentage of housing density versus wildland acreage. Given the unavoidable recurring fire danger, the California Department of Forestry and Fire Protection (Calfire) notes that these mountains have one of the most severe fire conditions in the world. The extreme wildfires of 2003 and 2007 demonstrated that present firefighting capabilities are insufficient to defend existing structures in the mountains much less any additional structures, especially ones not authorized by existing General Plan guidelines. Without taking into account the natural resource and open space values that the project would impact, these factors alone make a compelling case why more houses are a detriment rather than a community benefit. Disregarding this fact is a critical flaw in the RDEIR's analysis and disclosure.

Fire danger cannot be expected to decrease in the foreseeable future. These facts should fully rule out any further mountain development that is not already prescribed in the General Plan. Each additional structure added to the hazardous mountain environment worsens the already out-of-balance ratio of excess development in the wildland-urban intermix. Defending against fire in wildland terrain is the most costly and difficult firefighting condition of all. Given such circumstances, a General Plan Amendment that worsens the already hazardous situation would be an irresponsible disservice to the public. The prospect of relaxing zoning restrictions to allow 50 additional units and the accompanying increase in population would be unreasonable.

The proposed General Plan Amendment to change the land use designation from BV/RL-40 to BV/RS-20,000 is also unjustified from a deficient infrastructure standpoint. The lack of a reliable water source is another significant reason to disallow any zoning change that permits higher densities. In addition, the major fire of 2003 provided substantial evidence that the mountain

area lacks adequate evacuation capacity in a worst case scenario. More residents should not be added to such an already overburdened infrastructure. 8 CONT

Although the RDEIR largely fails to adequately disclose the full negative impacts to the surrounding San Bernardino National Forest and the environmental quality of the public resources, it admits that the proposed project would have a significant and unavoidable impact (i.e. detrimental effect) on the bald eagle. The bald eagle is a prominent symbol of Big Bear and has become a major regional attraction as part of the unique natural environment. A zone change that would significantly impact this species, resulting in the potential abandonment of the project site by bald eagles altogether, would be detrimental to the public interest.

In addition, a zoning change would further imperil other important public resources such as the pebble plain habitat, flying squirrel habitat, California spotted owl habitat and southern rubber boa habitat. It would also adversely impact National Forest public lands located immediately adjacent to the site. While the RDEIR dismisses these impacts as *less than significant*, using a dubious "regional threshold of significance" and a challengeable lack of evidence, there is no question such losses would be highly detrimental to the local community and the large general public that uses the Big Bear Lake area of the National Forest. 9

The site also borders a scenic highway and is part of the aesthetic viewshed of the largely undeveloped North Shore of Big Bear Lake, a major tourist feature of the San Bernardino Mountains.

No Benefit from More Houses

A change in the land use designation cannot be justified on the grounds that adjacent or nearby property has similar residential density as the Moon Camp proposal. On the contrary, the proposed development site is bounded on the majority of its borders by National Forest and the natural shoreline within the visual corridor of the scenic highway. Compatibility to the National Forest is an important reason to maintain the status quo and to not change the existing rural zoning. Low-density rural zoning is the ideal buffer between a developed community and the wildland National Forest and avoids compromising the public's enjoyment of the wildlife and aesthetic open space.

Contrary to the RDEIR assumption, the proposed land use zoning district change will not "provide a reasonable and logical extension of the existing land use pattern in the surrounding area," which is one of the necessary findings for a General Plan amendment. In light of the serious wildland fire hazard, the danger of steep slopes, National Forest edge effects, and the need for 100-foot or more setbacks between structures, it is widely acknowledged that the prevailing urban-style zoning densities are not appropriate in forested mountain terrain (especially inside a National Forest). Existing neighboring densities can no longer be looked-upon as a responsible residential norm. In the same way that existing neighborhood shake roofs cannot serve as legitimate models for new development anymore (because they are especially unsafe in the fire-prone mountains), so too the old style urban densities (for the same reason) must no longer be accepted as valid in a wildland National Forest setting. 10

There is an excess of available housing and available lots in the Big Bear Valley, averaging as much as 700 homes at a given time in this relatively small market area. The surplus further weakens any potential justification for a zone change from rural to urban residential on the flawed premise that more houses represent a public benefit. While a new subdivision might be

considered a beneficial attribute in an urban setting, it is proves to be a significant detriment on a site adjacent to a National Forest and a scenic mountain lake.

A land use zoning district change must not be allowed if it has "a substantial adverse effect on surrounding property." In the case of Moon Camp, the project would adversely impact the scenic open space qualities as well as critical wildlife such as the bald eagle, the San Bernardino flying squirrel, California spotted owl, and southern rubber boa. Also an increased density of 50-fold would negatively impact the forest by incursions of domestic animals, additional noise, potential off-road vehicles and increased ignition sources of wildland fire. These all affect the Forest Service's ability to manage its lands. Also adverse impacts to rare and endangered plants adjacent to the proposed project site would increase on National Forest lands. 10 CONT

Because of the uncertainty regarding water availability for the project site and the potential reliance on proposed wells, there is a strong likelihood that owners of adjacent property, who depend on the local groundwater supply, could be adversely impacted if project wells were to draw down supplies serving neighboring private wells in the vicinity.

No Slope Analysis in the RDEIR

There is a question whether the "site is physically suitable in terms of design, location, shape, size, operating characteristics... to ensure that the proposed or anticipated uses and/or development would not endanger, jeopardize, or otherwise constitute a hazard to the property or improvement in the vicinity in which the property is located," as per the zone change criteria. There appears to be no slope analysis of the Moon Camp site provided in the RDEIR, even though slopes on the site are potentially in excess of 30%. If so, the allowable density of the site would be subject to significant restrictions of the Development Code's Fire Safety Overlay. If the site is unduly steep, then that is another reason to disallow the unwarranted General Plan amendment.

> **BV/LU 1.3** Regulate the density of development in sloping hillside areas in order to reduce fire hazards, prevent erosion, and to preserve existing vegetation and the visual qualities of the plan area. One method this can be accomplished by is requiring adherence to the following hillside development standards required by the Fire Safety Overlay: 11

The slope analysis requirement for fire safety evaluation is per **section 82.13.040 (f) Application requirements:**

> Each land use and other project application shall include the following information and materials, in addition to what is required by Section 82.13.060(b)(6) (Application Forms and Information Packets).
>
> **(1) Slope analysis.**
>
> Each project application shall include a slope analysis. The slope analysis shall include the following information:
>
> (A) A topographic map of the proposed project area and all adjoining properties within 150 feet at a scale of not less than one-inch to 200 feet. The contour interval shall not be more than two feet except that the contour interval may be five feet if the general natural ungraded slope is more than 10 percent. Contour lines shall be obtained by aerial or field survey, done under the supervision of a licensed Land Surveyor or Registered Engineer.

(B) The natural, ungraded, slope categories to be computed are zero percent to less than 15 percent, 15 percent to less than 30 percent, 30 percent to less than 40 percent, and 40 percent and greater. The minimum area (polygon) used for slope calculation shall be 5,000 square feet.

(C) The area, in acres, shall be tabulated for each category.

Because there is already extensive urban-style development on the south shore of Big Bear Lake, the north shore is widely regarded by residents, visitors and the general public as the scenic showcase of the natural wildland integrity of the local National Forest. The existing Moon Camp low-density Rural Living zone is the optimum land use designation for an open space buffer area between the rural community and the National Forest. There is no valid justification provided in the RDEIR to amend the existing General Plan land use designation. 11 CONT

Bald Eagle Issues

In clarifying the overall effect of the proposed project on the bald eagle species in the Big Bear Valley, the conclusion of the report is that the project would result in "significant and unavoidable impacts" to bald eagle populations, for which no offsetting mitigation can be provided. Nor is there any reasonable overriding consideration that would validate such a detrimental sacrifice. Given the importance of the Bald Eagle in the Big Bear Valley both biologically and economically, this is tantamount to admitting that the project would be an extremely bad idea.

If the County of San Bernardino were to approve the project, it would be required to cite findings in accordance with Section 15091 of CEQA and prepare a Statement of Overriding Considerations in accordance with section 15093. In past instances of biologically detrimental development proposals in the mountain area, where significant unmitigable impacts were present, the County has employed the Statement of Overriding Consideration to substitute housing needs and economic benefits as tenuous justifications to override the particular significant biological impacts. That subterfuge cannot be legitimately employed in the case of a General Plan amendment, which requires stricter findings. 12

No longer can it be considered justifiable to sidestep critical biological resources on the claim that social, housing or economic benefits override the public value, the resources value or the economic value of the bald eagle habitat in the Big Bear Valley. The protection of natural resources on this site is clearly more in keeping with the highest public interest.

The Bald Eagle has become a prominent icon for the Big Bear area as well as a critical indicator species of the overall biological health and integrity of the forest and alpine lake environment.

As was pointed out in our 17 May 2004 comments (and is even truer today), increased development in the Big Bear Valley has corresponded with a simultaneous decline in the population of wintering bald eagles that inhabit the area. In addition to being the national bird, the bald eagle has also come to symbolize the unique wildlife values of the Big Bear Lake area in the San Bernardino National Forest. Beyond its importance as a California threatened species, the presence of the bald eagle in Big Bear has become a famous attraction for the visiting public, widely featured in a variety of publications and media exposure that confer a considerable level of high-profile advertising of this popular tourist destination. Such attention is of major benefit to the local economy that prospers from the prominence of the surrounding National Forest and the integrity of its wildlife. The Forest Service Discovery Center on the north shore is the main visitor center for the local mountains. Eagle tours are the primary

attraction in winter. The health and sustainability of the bald eagle is a critical factor for the overall natural resource values of the National Forest in the Big Bear Lake area.

The cumulative biological reports for the Moon Camp EIRs strongly confirm that the project site is a highly significant roosting and perching habitat for the remaining bald eagle population in the area. The point has been stressed that the "proposed project contains some of the most utilized bald eagle roosting and perching habitat in the Big Bear Valley." However, the overall assessment also points out that the proposed project, which is dependent upon the granting of a special General Plan amendment by the County for a major zoning change, would have an extremely adverse effect on the bald eagle, which could not be mitigated. The impacts from the development and road construction proposals would severely compromise the viability of the existing habitat and further compound the factors contributing to the significant population decline of the bald eagle throughout the Big Bear Valley. 12 CONT

The bald eagle is one of the most magnificent and irreplaceable natural resources of the region. It would be a tragic loss if the largest population of wintering bald eagles in Southern California were allowed to dissipate due to unwarranted zone changes for detrimental projects like this.

General Plan Factors

The bald eagle is certainly a prime example of the kind of natural resource that the County General Plan was fully meant to protect. Some 25 years ago the 1989 General Plan recognized that, "In the Mountain region, many plant and animal species, including Bald and Golden Eagles, are losing habitat to residential land use along lake shores." (Page 11-C1-2). Wildlife values were specifically highlighted in the Preservation of Natural Resources Section of the 1989 Open Space Element as having a collection of positive factors such as aesthetic, recreational, ecological, educational and scientific values as well as economic benefits, insofar as the wintering population of the Bald Eagle in particular is a popular tourist event in the Big Bear Valley. (Page 11-C5-57). Also the San Bernardino Mountains as a whole are considered an "Area of Biotic Significance" and in particular all perennial and intermittent ("Blue-line") streams, lakes and reservoirs, conifer forests and large mammals and raptors are specifically identified as being key natural resources. It is clear that the overall context of the mountain environment requires special attention to sustain a whole system of unique natural resources.

13

The supplemental 2004 Biological Resources Section of the DEIR is insightful in its assessment of these unique qualities and considerations as they relate to the proposed Moon Camp development project. But it is evident to Audubon from monitoring development trends in the San Bernardino Mountains over the past 20 years that the full protection of the County General Plan pertaining to natural resources needs to be more strongly invoked and more strategically reinforced, if the highest and best attributes of the local National Forest and its exceptional biological resources are to be adequately sustained as a regional treasure going forward into the future.

The County General Plan has long recognized the critical value in protecting natural resources, as again from 1989:

> Natural resources are distinctly different from other concerns normally dealt with in the planning process because these resources are exhaustible and can be permanently damaged. In order to ensure the continued ability of these natural resources to function in their supportive roles in maintaining the quality of life for the urbanized portions of the County, it is crucial to identify and implement strong definitive actions to assure their long term survivability. Without strong

direction and controls placed upon certain lands within the County, undesirable effects will result in:

-- Extinction of species
-- Depletion of groundwater aquifers
-- Consumption of nonrenewable resources
-- Loss of interpretive data
-- Conversions of natural open space

.

There are numerous goals and policies of the General Plan that fully emphasize these biological and natural resource priorities. A sampling of these policies strongly illustrates the special value and protections outlined in the 2007 General Plan, while and revealing how much the proposed zone change and subdivision project fail to meet these County guidelines:

CO 1.2 The preservation of some natural resources requires the establishment of a buffer area between the resource and developed areas. The County will continue the review of the Land Use Designations for unincorporated areas within one mile of any state or federally designated scenic area, National Forest, National Monument, or similar area, to ensure that sufficiently low development densities and building controls are applied to protect the visual and natural qualities of these areas. 13 CONT

The current zoning of BV/RL-40 fully conforms to the intent of this policy by providing a compatible buffer area of rural open space zoning between the National Forest and the existing community. That is a logical and responsible practice to apply within a National Forest, where the fragile interface area between residential and wildland requires complex management issues. Only a superficial buffer of 100 feet between houses and National Forest wildland would remain, if the current zoning protections were to be removed by a General Plan amendment. The public forestlands would become incorporated into the backyards of private homeowners, subjecting natural resources to various abuses of encroachment, predation by domestic animals, off-road vehicle damage, tree-cutting, etc. Increasing the zoning allowance to eliminate the low-density open space buffer would not be consistent with this General Plan policy, thereby violating one of the mandatory findings for justifying a zone change.

M/LU 1.20 Closely review development projects on private land adjacent to National Forest lands to ensure that development projects are capable of meeting all development requirements within the project boundaries or other non-federal land. Provide opportunities for the U.S. Forest Service to consult with the County on development of private land that may have an adverse effect on adjoining National Forest land.

The U.S. Forest Service submitted comments on the 2010 edition of the Revised Draft EIR, identifying various adverse impacts that the project would have on the Forest Service, the public lands under its management and the sensitive species and unique environmental resources found in the forest. The letter serves as an indicator of added reasons why the project and its proposed zoning change will have a substantial adverse effect on surrounding property, one of the criteria for disallowing the change. Some of the issues noted by the Forest Service include: 14

-- a request that the project eliminate the plan for street lighting to avoid substantial adverse impact on National Forest lands and to be consistent with the rest of Fawnskin, which has no street lighting,

-- there is a need for a detailed soils erosion and sedimentation plan and geotechnical investigation of slope stability to determine whether significant impacts may affect the National Forest and Big Bear Lake (this ties in with the fact indicated above that no slope analysis has been provided in the project's environmental document),

-- the professional advice that signage and CC&Rs do not provide effective mitigation in

preventing abuses of dispersed recreation and impacts on adjacent Forest Service land.

(As an example, the mitigation offered for the destruction of flying squirrel habitat is merely a flier informing residents that their cats might harm this species. Such a method has no potential to reduce the actual loss of flying squirrel habitat. It is only *pro forma* paper mitigation to give the appearance of addressing this issue). 14 CONT

GOAL M/OS 1. Ensure the preservation and proper management of National Forest lands within the Mountain Region to maintain the alpine character of the region.

The best way to ensure the preservation and proper management of National Forest lands, while maintaining the alpine character of the Mountain Region as it exists in Fawnskin, is to avoid making an unnecessary zoning change amendment to the existing General Plan.

GOAL CO 2. The County will maintain and enhance biological diversity and healthy ecosystems throughout the County.

Since the RDEIR indicates that adverse impacts to the bald eagle from the Moon Camp project will be significant and unavoidable in ways that cannot be mitigated, it is clear that Goal CO 2 points to another conflict between the proposed zoning change and the policies of the General Plan. While the RDEIR claims that additional adverse impacts to other sensitive species and plants are "less than significant," that claim is highly contestable on the basis that the CEQA Thresholds of Significance have not been applied properly and objectively in this case. Based on Development Code criteria, these negative impacts must not constitute a detriment to the public interest or have a substantially adverse effect on surrounding property. Given the cumulative force of all these detrimental impacts on the biological resources and ecology of Fawnskin, they add up to very substantial and significantly adverse consequences. 15

CO 2.1 The County will coordinate with state and federal agencies and departments to ensure that their programs to preserve rare and endangered species and protect areas of special habitat value, as well as conserve populations and habitats of commonly occurring species, are reflected in reviews and approvals of development programs.

Because of faulty analysis and inadequate mitigations, the Moon Camp RDEIR does not sufficiently comply with the spirit and intent of this policy. Rather than "preserve rare and endangered species and protect areas of special habitat," the project will have an overall detrimental effect on the habitats, species and unique public resource values contained on this site. By basing evaluations of rare plants and animals on an abstract and ill-defined "regional" context for justifying "less than significant" verdicts for habitat destruction and species loss at the project site, the RDEIR artificially downplays and minimizes the vital forest and ecological qualities that will be sacrificed. 16

M/CO 1.4 Designate and protect unique habitats supporting rare and endangered species.

Although the project proposes to designate and protect unique pebble plain habitat as well as bald eagle perch trees, the mitigation measures are not realistic or adequate and do not ensure long term survival of these resources. Instead, the project will result in greater long term loss and damage by crowding up against the National Forest and greatly magnifying overall detrimental effects. The best way to protect these unique habitats is by maintaining the RL-40 zoning designation for rural open space, which will ensure that the bald eagle perch trees and overlapping rare habitats/species on adjacent National Forest will not be overrun by inappropriate urban expansion. 17

M/CO 1.6 Prepare guidelines for the protection of eagle perch trees and spotted owl nest trees. 18

One excellent guideline for the protection of eagle perch trees and spotted owl nest trees is not to allow rural open space zoning to be converted to urban densities in critical buffer areas adjacent to National Forest as exemplified by this site. As pointed out by the Forest Service, the plans for the eagle perch trees are inadequate to effectively mitigate the impacts, and there are no mitigations offered for spotted owls contrary to recommendation from the Forest Service. 18 CONT

GOAL M/OS 2. Improve and preserve open space corridors throughout the Mountain Region.

Much of the north shore (this site included) forms an excellent wildlife landscape linkage between the National Forest and the lake. By ignoring this mountain open space goal, the RDEIR further demonstrates the project's inconsistency with the County General Plan.

LU 1.2 The design and siting of new development will meet locational and development standards to ensure compatibility of the new development with adjacent land uses and community character.

In Fawnskin, where the quality of life is defined by low-density rural living and wildland forest characteristics, unwarranted urban density would depreciate that quality. Locational standards are intended to ensure compatibility with adjacent land uses and community character. The proposed zone change would be contrary to General Plan locational standards as well as incompatible with adjacent National Forest land use and the north shore's scenic open space, which define the Fawnskin community character. The Rural Living (RL) zone is intended "to prevent inappropriate demand for urban services," and the County's locational criteria include such elements as: recreation areas, rural residences and vacation cabins; watershed, wildlife and open space uses; areas with limited, low-density development or mountainous areas with moderate slopes; areas where rural residences are the primary use of the land; and areas with limited public improvements. Such locational criteria clearly apply to the Fawnskin site and the existing RL-40 zone designation. 19

GOAL M/CO 1. Preserve the unique environmental features of the Mountain Region including native wildlife, vegetation and scenic vistas.

One of the best ways to meet and uphold this mountain conservation goal is to maintain rural open space land use designations in the critical interface buffer areas between mountain communities and the wildland environment of the National Forest. 20

M/CO 1.2 Protect scenic vistas by minimizing ridgeline development that would substantially detract from the scenic quality of major ridgeline viewsheds.

Demonstrating its indifference to this mountain policy, the proposed Moon Camp project calls for homes to be located along the ridgeline. There is no area more scenic than the north shore of Big Bear Lake. This policy is a further example of the project's inconsistency with the General Plan policy that runs contrary to the criteria for a zone change amendment. 21

M/CO 1.7 Encourage conservation and sound management of the mountain forest character and natural resources, including water, streams, vegetation, soils and wildlife. Require the planting of native or drought-tolerant cultivar species, capable of surviving the mountain environment and climate. 22

Conservation and sound management of the mountain forest character and natural resources requires that a compatible buffer of open space be maintained in the interface areas between the National Forest and mountain communities such as Fawnskin.

GOAL M/CO 2. Maintain the health and vigor of the forest environment. 23

The health and vigor of the forest environment is best maintained by minimizing the detrimental impacts of dispersed recreation and spill-over edge effects from urban-style densities placed too close the National Forest interface boundaries. Low-density buffer zones are necessary to uphold this goal. General Plan amendments for zone changes in areas such as Fawnskin should not be permitted. 23

GOAL M/CO 3. Conserve and protect surface and groundwater resources to meet the needs of a growing mountain population, to support the mountain environment and forest watershed and to preserve the quality of life for mountain residents and visitors.

One of the recommendations of the Forest Service was a more thorough surface and groundwater resources analysis, since water extraction associated with the project could result in potentially adverse impacts on riparian and wetland habitats. By disallowing an unwarranted zone change, these detrimental impacts to the forest watershed would be avoided. 24

M/CO 3.1 Utilize open space and drainage easements as well as clustering of new development as stream preservation tools.

Protecting streams and natural drainages is critical in the San Bernardino Mountains, where less than one percent of the National Forest landscape is riparian habitat but is required by 70% of all mountain wildlife for survival. The natural stream channels provide significant travel routes for wildlife. The detrimental impact of mountain development on these resources has been harmful over time. The onsite streams would be far better preserved by keeping the rural open space zoning intact. 25

GOAL M/CO 5. Preserve the dark night sky as a natural resource in the Mountain Region communities.

The street lighting designed into the Moon Camp project will result in significant impacts to the Fawnskin community's cherished dark skies, which are an important element of the mountain environment. Also occupants of newer modern housing demonstrate a stronger preference for urban-style security lighting. Overall this will have a negative impact on the forest and community. The best way to preserve the dark night sky is to preserve the existing open space zoning for this site. 26

M/CO 5.4 All outdoor lighting, including street lighting, shall be provided in accordance with the Night Sky Protection Ordinance and shall only be provided as necessary to meet safety standards.

Even if this policy is enforced, the impact of 50 new large modern houses will be significant on the adjacent National Forest. It will also impact the viewshed from across the lake. Like so many other major detriments of the proposed project, this negative impact can be avoided by keeping the existing zoning designation in the General Plan, which would also be consistent with all of the above cited goals and policies.

GOAL BV/LU 1. Retain the existing mountain character of the community.

To achieve this goal the proposed General Plan zoning change amendment should be rejected.

BV/LU 1.1 Require strict adherence to the Land Use Policy Map unless proposed changes are clearly demonstrated to be consistent with the community character. 27

Since the proposed project is not consistent with the community character, "strict adherence" to the existing rural zoning designation needs to be enforced.

BV/LU 1.2 In recognition of the community's desire to preserve the alpine character and protect the area's natural resources, projects that propose to increase the density of residential land uses or provide additional commercial land use districts or zones within the plan area should only be considered if the following findings can be made:

A. That the change will be consistent with the community character.
In determining consistency the entire General Plan and all elements of the community plan shall be reviewed.

28

The proposed zoning change is not consistent with the community character nor a large segment of the entire General Plan.

BV/CI 1.4 Preservation and protection of sensitive habitats shall have priority over road location, relocation or realignment, when other practical alternatives are available.

29

The road proposed to exit on the east end of the proposed development bisects sensitive plant habitat and unnecessarily separates two conservation lots.

BV/CI 1.6 Minimize the traffic load on mountain major highways and mountain secondary highways by requiring projects to minimize direct access to these main circulation roads.

Contrary to this policy, the proposed development proposes four new direct access points onto the substandard Highway 38, all within a very short distance of each other.

BV/CI 5.1 Through the development review process, permit new development only when adequate water supply exists or can be assured.

30

So far the evidence provided is deficient to show whether adequate water supplies exist to serve the proposed development. One option for supplying water has the potential to adversely impact groundwater supplies and draw down other private wells in the project vicinity.

BV/CO 4.5 Natural drainage courses shall not be occupied or obstructed.

31

The proposed project would completely occupy and obstruct the natural drainage course on the east end of the property.

Wildlife Impacts

The RDEIR asserts, "the loss of habitat, loss of wildlife, wildlife displacement, and habitat fragmentation that would result from construction of the 2011 Alternative Project would not be considered significant because these impacts would not substantially diminish habitat for wildlife in the region nor reduce any specific wildlife populations in the region to below self-sustaining numbers." This conclusion, however, lacks substantial evidence; there is no data or analysis accompanying it. CEQA requires that a project's conclusions be supported with evidence and analysis. What are, for example, the "self-sustaining numbers" for each of the impacted species? At what point would habitat fragmentation be considered to significantly affect an individual species? Would the loss of habitat on the project site cause the current eagle population, for example, to completely abandon the site? At what point would the site's habitat become so marginal that other sensitive wildlife species would no longer find it to be suitable and abandon the site? What are the specific impacts to the eagle and other species from some of the specific project components, such as the proposed marina? What is the definition of the referenced "region?" How does the loss of habitat add to the cumulative impacts of habitat loss in the Big Bear Valley over the years? None of this information is provided.

32

The RDEIR attempts to further evade its obligation to conduct a species-specific evaluation when it asserts that the "loss of foraging habitat [for many species] would be considered adverse, but less than significant due to the limited amount of habitat loss relative to the availability of foraging habitat for [species]." Again, the RDEIR provides no analysis or evidence to support this conclusion. Without an actual species-by-species analysis, how can the EIR authors be apprised of the "amount of habitat loss relative to habitat availability?" The Project site's important biological resources mandate a clear and thorough evaluation of impacts to affected species. 33

The decline in the population of wintering bald eagles (that parallels the increase in local development of Big Bear Valley) is apparent in the statistics from the Forest Service's Bald Eagle Counts as shown in Appendix A. The project modifications in the RDEIR do not materially reduce any of the significant impacts on the site or to the surrounding public resources of the San Bernardino National Forest. The RDEIR states that perch trees are to be saved, however it does not provide measures that fully promote survival nor offer effective mitigation that would guarantee long term preservation. This supposed mitigation does not reduce the significant impact to the Bald Eagle in any way. 34

Too many of the eagle perch trees within proposed project design are located on developable lots, where they will not be adequately protected against removal during building construction or upon becoming identified as a safety hazard. The RDEIR thus fails to provide adequate safeguards for these critical trees, especially the "most utilized perch tree on the North Shore" (according to the bald eagle survey in Appendix A). These trees should be fully protected in sufficiently large conservation lots. There ought to be a mitigation measure that ensures that these vital perch trees remain standing throughout their natural cycle. 35

Although the RDEIR acknowledges on page 2-29 and 2-30 that the bald eagle could potentially nest on the project site, the report does not identify, analyze or mitigate the potential impacts to nesting eagles. Because human activity within close proximity to eagles' nests interferes with successful nesting, perch trees on developable lots are ineffective for adequately mitigating impacts to the eagle. 36

Several important perch trees on the proposed project site, including at least two of the perch trees designated on the map in the RDEIR, have already been lost recently due to cutting by the electric company, road maintenance or other tree-cutting on the site. This information has been omitted from the RDEIR analysis as part of the discussion regarding the already fragile nature of these perch trees. This makes the remaining perch trees even more key to the foraging bald eagles and requires additional mitigations to assure the safety of those trees for as long as natural circumstances will allow. The current mitigations (MM BR-4) are inadequate and unenforceable and do not reduce the significance of the impact to the bald eagle. 37

The RDEIR fails to analyze the impact on foraging habits of bald eagles when houses are located on steep slopes above the perch sites. Bald eagles were known to frequent the lakeside slopes below the Castle Glen development prior to the construction of the project, where a foraging area was set aside as a conservation easement for the bald eagle. However, after homes were built above the eagle perches, the eagle count data by the Forest Service indicated that the eagles' use of the area for foraging was greatly reduced. Since the Moon Camp project proposes home sites on the steep slopes above the perch trees, which are supposed to be preserved as mitigation, these factors should be analyzed and mitigations devised to minimize impacts of this nature. 38

Human activity below and near bald eagle perch trees adversely affects the frequency of use by eagles. For the perch trees that are designated to remain on the site these impacts need to be fully analyzed and additional mitigation designed that will avoid such detrimental activity in the vicinity of the trees. 39

The RDEIR uses site descriptions that were created for earlier drafts of the report, including an average density of 44.4 trees per acre plus the relative sizes of open Jeffrey pine forest and pebble plain. Since many trees on the property have died and been cut since those descriptions were created, these are no longer valid and should be updated to reflect accurate data. 40

Requiring 24-inch replacement trees for trees larger than 24-inch dbh does not reduce the significant impacts to the bald eagle. The cut trees might be many times larger than the replacement trees and already functional as bald eagle perch trees, whereas these smaller trees could take decades to grow to attain the necessary height as replacements. The only way to effectively mitigate is to require that no trees over 24-inch dbh be cut, a measure that has not been adopted by the project proposal and can only be achieved by keeping the existing zoning designation intact. 41

Although the RDEIR concludes that impacts to the bald eagle would be significant, it substantially understates these impacts. It also greatly underestimates the impacts to the ashy-gray Indian paintbrush, other pebble plain special status plants, and other biological resources, while failing as well to adequately mitigate the true impacts to these species. 42

Rare Plant Habitat

Audubon believes the project would result in significant impacts to the ashy-gray Indian paintbrush (a federally-listed threatened species) and various other species to a much greater extent than is indicated in the RDEIR.

The RDEIR states on page ES-3 that "impacts to the ashy-gray Indian paintbrush are less than significant." This conclusion is not fully supported by the analysis, in which the true impacts have been understated, and the recommended mitigations are insufficient to properly offset the impacts.

Open Space Lot H as described on page ES-6 is intended as a measure to offset the loss of a portion of Lot A. The new conservation lot does not adequately compensate for the loss of a portion of Lot A, since the habitat for the ashy-gray Indian paintbrush becomes unduly reduced overall in size and in numbers of plants, while the pebble plain habitat also is reduced in size. The evidence supporting the RDEIR's conclusion on page ES-7 that the redistribution of the developable lots minimizes impacts to the ashy-gray Indian paintbrush is largely flawed. 43

The acreage specifications for the total size of the conservation easements as found in different parts of the RDEIR are inconsistent, making it confusing to determine whether the proposed conservation easements are adequate to protect the site's rare plant species and habitat.

The discussion regarding the ashy-gray Indian paintbrush on pages 2-45 and 2-46 is written in a confusing manner that obscures the information and leads to faulty conclusions. The method of calculating the extent of sensitive habitat switches inconsistently between specific numbers of plants on one hand and measurements of acreage on the other. The mixed use of different types of ratios contributes to the misleading character of the analysis. The standard ratio for mitigation typically compares acres protected versus acres lost, recommending two or three

times the number of acres set aside for offsite mitigation as per the number lost onsite. But the RDEIR introduces an added misleading ratio that simply compares the percentage of individual plants protected onsite versus the number to be eliminated. To mix these two types of ratios in the same context tends to hide and obscure critical deficiencies in the proposed methods of mitigation. The confusion frustrates the primary purpose of accurate public disclosure and leads to unsubstantiated conclusions. 43 CONT

Onsite conservation properly serves as mitigation for the habitat and plants that are actually located within the specified conservation area but not for others elsewhere that will be displaced by the project. Plants and habitat that are to be displaced by the proposed project should be mitigated offsite. 44

The practice of counting individual plants and not acreage of habitat introduces confusing comparisons into the equation. The RDEIR claims the project has the potential to impact 5567 plants in total of the ashy-gray Indian paintbrush species. Of this number, 4895 plants will be protected within an onsite conservation area, thus preserved onsite at a 1:1 ratio. That leaves 672 plants to be mitigated offsite. 45

Insofar as the offsite mitigation locale contains only 27 of the ashy-gray paintbrush plants (2010 Krantz survey, Appendix A), it appears that the proposed mitigation is not truly adequate. If the number of plants is made the focus, there are 672 plants to be lost and only 27 mitigated offsite. That leaves 645 plants without mitigation. The resulting offsite mitigation ratio in terms of individual plant numbers would be approximately 1:25 (one saved for every 25 lost). That indicates that the offsite mitigation does not reduce the adverse impacts to the ashy-gray Indian paintbrush to a less-than-significant level as claimed by the RDEIR.

However, when referencing the offsite mitigation for plants lost, the RDEIR switches from comparing the number of plants to comparing the acreage of the habitat. On this basis it somehow claims that the ratio of protection is 10:1 as described on page 2-46. 46

The total mitigation ratio calculated as 10:1 on page 2-46 is inaccurate and misleading. The RDEIR states on page 2-44 that there are 18.01 acres of occupied habitat of the ashy-gray Indian paintbrush. (The mapping done by the Forest Service of pebble plain habitat confirms this figure). This entire 18.01 acres has the potential to be impacted by the project. Of that total habitat, 5.38 acres are being mitigated onsite (in a 1:1 ratio) within the conservation areas being set aside. That leaves 12.63 acres that must be mitigated offsite. However, the offsite area being provided is only 10 acres. Although the biological recommendation is to mitigate offsite at a ratio of 3:1, even at 1:1 there are 2.63 acres that remain unmitigated. Consequently the offsite preserve is not adequate to reduce the impact to less-than-significant.

It is more practical in plant habitat mitigation to mitigate based on occupied habitat size, not plant numbers, since accurate counts of individual plants are unreliable based on a single survey. In the 2010 Krantz Survey (Appendix A), it is stated that count numbers were obtained by estimation.

The RDEIR does not discuss how the figure of 1.55 acres of impacted habitat was obtained. From the appearance of the map in Exhibit 2-2, the lost habitat appears only slightly smaller than the overall conservation area, or much larger than 1.55 acres. Was this measurement determined by measuring small patches around specific plants as opposed to taking the whole occupied area as habitat? 47

The true size of the actual pebble plain habitat on the offsite Dixie Lee parcel per the mitigation measure MM BR-1a is only about 5 acres. The ten acres is the size of the fenced area, but not actual pebble plain habitat. Thus, only the occupied pebble plain habitat should be counted. Since the mitigation does not contribute the stated amount of conservation area, the impact to ashy-gray Indian paintbrush cannot be reduced to below the level of significance. Also, two of the five acres were previously set aside as mitigation for the local high school. That leaves three instead of 10 acres that represent the true offsite mitigation acreage. 48

Other Biological Resources

The analysis and evaluation of the Southern Rubber Boa habitat in the RDEIR is inadequate to determine that the impact would not be significant. The surveys stop short of following recommended DFG protocol. The discussion and conclusions are based on out of date information, especially regarding the statement that the habitat primarily runs in a 10-mile strip near Crestline. This species was found at the Big Bear dam construction site and has now been recorded near the dump on the east end of the valley. The analysis does not take into account that it is a secretive species, difficult to find in surveys. The evaluation on the southern rubber boa does not take into account the Forest Service species habitat mapping, which includes the proposed project site as being within the habitat of this species. Since the site does offer suitable habitat and is within the area mapped as habitat, some form of mitigation or avoidance should be included in order to properly offset this impact. 49

The mitigation for the state-listed Threatened species southern rubber boa (BR-2) is ineffective at actually preserving habitat since the set-backs from the drainage would be on private lots and there are no enforcement options provided that would assure its effectiveness. What agency will be monitoring that no clearing takes place after the lot is sold? The habitat should not be included in private lots and effective mitigations must be proposed. 50

Even though portions of this site have been mapped by the Forest Service as suitable spotted owl habitat, and it is acknowledged that the site is used for foraging and that at least one nesting area is nearby, no actual analysis of the impacts to this species has been provided to justify a conclusion that the impacts would be less than significant, and no mitigations have been included for the loss of suitable habitat. 51

The evaluation of the impacts to spotted owl does not take into consideration that this site is also flying squirrel habitat and that impacts to the flying squirrel would also increase the impacts to the spotted owl since this squirrel is its primary food source. Since the mitigations for impacts to the flying squirrel are inadequate and unenforceable, the impacts to the spotted owl also remain more significant than has been presented in this RDEIR.

Citizen Participation

Audubon is appreciative of the extraordinary amount of volunteer hours, research and consultation with experts that has been undertaken by the local Friends of Fawnskin community organization in opposing the misguided Moon Camp proposal. The county should take note that the testimony from the community in regard to the adverse impacts of the project represents a much more accurate perspective than what has been provided in all versions and revisions of the draft environmental impact report. Certainly equivalent amounts of time, expertise and expense have been invested by citizens in placing their case before the county. There are abundant and compelling reasons why the existing General Plan guidelines ought to be maintained and not be irresponsibly overturned. Maintaining the status quo is in the best interest of the general public, for its safety, well-being and continued protections of a priceless 52

National Forest. The county is fortunate to have local concerned advocates and their clear perspectives on what constitutes the county's primary responsibilities.

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CONT

We thank you for your consideration of these comments.

Sincerely,

Drew Feldmann

Drew Feldmann
Conservation Chair

cc: Jeff Brandt, DFG Ontario Office
Neil Derry, 3rd District SBCounty Supervisor
Christine Kelly, SBCounty Director of Land Use Services
Sandy Steers, Friends of Fawnskin
Adam Keats, Esq., Center for Biological Diversity
Kim Floyd, San Gorgonio Chapter Sierra Club

San Bernardino Valley Audubon Society (1) (SBVAS1)

Response to SBVAS1-1
The commenter provides general comment about the identity and purpose of the San Bernardino Valley Audubon Society. No specific comment regarding the adequacy of the environmental document is included. Therefore, no formal written response is necessary.

Response to SBVAS1-2
The commenter provides general statement regarding the Project's significant detrimental effect. No specific comment regarding the adequacy of the environmental document is included. Therefore, no formal written response is necessary.

Response to SBVAS1-3
The RRDEIR No. 2 represented the recirculation of only the Biological Resources section of the Project EIR, and, therefore, any comments not related to the Biological Resource analysis are outside the scope of the RRDEIR No. 2 and do not require formal written response. This relates to land use and zoning issues.

Response to SBVAS1-4
The comment relates to land use and zoning issues. The RRDEIR No. 2 represented the recirculation of only the Biological Resources section of the Project EIR, and, therefore, any comments not related to the Biological Resource analysis are outside the scope of the RRDEIR No. 2 and do not require formal written response.

Response to SBVAS1-5
The comment relates to land use and zoning issues. The RRDEIR No. 2 represented the recirculation of only the Biological Resources section of the Project EIR, and, therefore, any comments not related to the Biological Resource analysis are outside the scope of the RRDEIR No. 2 and do not require formal written response.

Response to SBVAS1-6
The comment relates to land use and zoning issues. The RRDEIR No. 2 represented the recirculation of only the Biological Resources section of the Project EIR, and, therefore, any comments not related to the Biological Resource analysis are outside the scope of the RRDEIR No. 2 and do not require formal written response.

Response to SBVAS1-7
The comment relates to land use and zoning issues. The RRDEIR No. 2 represented the recirculation of only the Biological Resources section of the Project EIR, and, therefore, any comments not related to the Biological Resource analysis are outside the scope of the RRDEIR No. 2 and do not require formal written response.

Response to SBVAS1-8
The comment relates to land use and zoning issues. The RRDEIR No. 2 represented the recirculation of only the Biological Resources section of the Project EIR, and, therefore, any comments not related to the Biological Resource analysis are outside the scope of the RRDEIR No. 2 and do not require formal written response.

Response to SBVAS1-9

The comment relates to land use and zoning issues. The RRDEIR No. 2 represented the recirculation of only the Biological Resources section of the Project EIR, and, therefore, any comments not related to the Biological Resource analysis are outside the scope of the RRDEIR No. 2 and do not require formal written response.

Response to SBVAS1-10

The comment relates to land use and zoning issues. The RRDEIR No. 2 represented the recirculation of only the Biological Resources section of the Project EIR, and, therefore, any comments not related to the Biological Resource analysis are outside the scope of the RRDEIR No. 2 and do not require formal written response.

Response to SBVAS1-11

The comment relates to land use and zoning issues. The RRDEIR No. 2 represented the recirculation of only the Biological Resources section of the Project EIR, and, therefore, any comments not related to the Biological Resource analysis are outside the scope of the RRDEIR No. 2 and do not require formal written response.

Response to SBVAS1-12

The RRDEIR No. 2 analyzed the potential for the Moon Camp Project to have a significant impact on the American bald eagle. Although the American bald eagle was removed as a federal-listed endangered species in August 2007, it remains endangered in California, and remains a special-status wildlife species. The RRDEIR No. 2 acknowledged that bald eagles were known to be present and roost on the Project site in the winter (RRDEIR No. 2, page 2-29). Many of the trees located on the Project site have been identified as bald eagle perch trees. Surveys and records searches were conducted for the Project site in the winter of 2002 and 2007, which determined that bald eagles use the site extensively. Bald eagle perch locations were recorded and individual trees were marked with numbered tags (RRDEIR No. 2, page 2-29). However, there are no records showing that bald eagles had historically nested on the Project site and neither the 2002 nor 2007 survey found nesting bald eagles on the Project Site. The proposed mitigation measures prohibit the intentional removal of identified perch trees as a component of Project development, but noted that perch trees may need to be removed in the future if they create a hazardous condition. The potential for future removal of bald eagle perch trees, along with additional light and glare/noise introduced into the area by the Project, is considered a potentially significant CEQA impact. Mitigation Measures BR-4, BR-6, and BR-7 (RRDEIR No. 2, page 2-59 to 2-60) will reduce impacts to the bald eagle. These mitigation measures include:

- Replacement of removed perch trees (should that be necessary) at a ratio of 5:1 with creation of artificial perch trees along the shoreline designated Open Space (Mitigation Measure BR-4)
- Replacement of identified non-perch trees larger than 24 inches dbh, removed as part of project development, at a ratio of 2:1 (Mitigation Measure BR-4)
- Pre-construction survey of trees to identify existence of active nests. Active nests will be protected and avoided (Mitigation Measure BR-6)

- All vegetation removal, clearing, and grading on the Project site must be performed outside the breeding and nesting season to minimize effects to the Bald Eagle (Mitigation Measure BR-7)

Despite implementation of these mitigation measures, impacts were determined to be significant and unavoidable, due to the very strict County of San Bernardino criteria for determining CEQA impacts to bald eagles. Any removal of perch trees or human activity resulting in the introduction of additional light and/or noise impacts is considered a significant impact under CEQA. Therefore, although the impacts are identified as significant and unavoidable, the proposed mitigation measures significantly reduce these impacts. The commenter is correct that the County of San Bernardino will be required to adopt a Statement of Overriding Considerations prior to Project approval.

Response to SBVAS1-13
The commenter makes a general assertion regarding impact of a General Plan Amendment and zone change on the surrounding Forest Service lands. The commenter does not make any comment regarding the content or adequacy of the RRDEIR No. 2. Therefore, no formal written response is necessary. This comment will be forwarded to decision-makers for consideration.

Response to SBVAS1-14
The commenter makes a general assertion regarding the perceived negative impact of the Project on Forest Service lands. The commenter also asserts that the mitigation for impacts to the San Bernardino flying squirrel is inadequate. Mitigation Measure BR-3 (RRDEIR No. 2, page 2-58) requires the Project to have biologist qualified with San Bernardino flying squirrel to be present as a monitor during tree removal. Where tree snag and downed wood containing cavities suitable for San Bernardino flying squirrel nesting are required to be removed as part of Project development, such loss of habitat shall be mitigated by constructing and erecting two nest boxes and one aggregate box per snag removed (Mitigation Measure BR-3). Appendix A to the RRDEIR No. 2 provides specifications for the nest and aggregate boxes. Additionally, the Project Applicant will provide new homeowners with a flyer that provides information on the biology of the San Bernardino flying squirrel and how they are susceptible to predation by domestic cats. Contrary to the commenter's assertion, the flyer given to prospective homeowners was not the only mitigation required and the requirement for replacement habitat is sufficient to reduce impacts to less than significant levels.

Response to SBVAS1-15
The commenter makes the general claim that any adverse impact to sensitive species is inconsistent with County of San Bernardino General Plan goals and policies to maintain enhanced biological diversity and healthy ecosystem throughout the County. Although the County of San Bernardino Code and General Plan do provide goals and policies relating to maintaining a diverse in healthy ecosystems throughout the County of San Bernardino, projects that result in potentially significant impacts to sensitive species are not inconsistent with such goals and policies merely because of those impacts. The RRDEIR No. 1 and RRDEIR No. 2 include sufficient discussion related to projects consistency with the County of San Bernardino General Plan goals and policies, including those related to conserving biological resources.

Response to SBVAS1-16
See Response to SBVAS1-15.

Response to SBVAS1-17
The commenter provides a general comment that mitigation measures for impacts to sensitive biological resources such as the American bald eagle and the ashy-grey Indian paintbrush are not realistic or adequate to ensure long-term survival of the resources. The commenter also generally states that the existing County of San Bernardino General Plan designation must be maintained to ensure continued preservation of sensitive species otherwise potentially impacted by the project.

The County of San Bernardino respectfully disagrees with the commenter. The RRDEIR No. 2 implements a number of mitigation measures that reduce impacts to these sensitive species. Moreover, the Project site plan was significantly redesigned to protect, in perpetuity, areas of sensitive habitat for the ashy-grey Indian paintbrush to ensure continued viability of that species.

Response to SBVAS1-18
The commenter makes a general claim regarding the inadequacy of mitigation measures for impacts to the bald eagle. The County respectfully disagrees and believes that the mitigation measures are sufficient to reduce impacts to the extent feasible.

Response to SBVAS1-19
The comment relates to land use and zoning issues. The RRDEIR No. 2 represented the recirculation of only the Biological Resources section of the Project EIR, and, therefore, any comments not related to the Biological Resource analysis are outside the scope of the RRDEIR No. 2 and do not require formal written response.

Response to SBVAS1-20
The comment relates to land use and zoning issues. The RRDEIR No. 2 represented the recirculation of only the Biological Resources section of the Project EIR, and, therefore, any comments not related to the Biological Resource analysis are outside the scope of the RRDEIR No. 2 and do not require formal written response.

Response to SBVAS1-21
The comment relates to land use and zoning issues. The RRDEIR No. 2 represented the recirculation of only the Biological Resources section of the Project EIR, and, therefore, any comments not related to the Biological Resource analysis are outside the scope of the RRDEIR No. 2 and do not require formal written response.

Response to SBVAS1-22
The comment relates to land use and zoning issues. The RRDEIR No. 2 represented the recirculation of only the Biological Resources section of the Project EIR, and, therefore, any comments not related to the Biological Resource analysis are outside the scope of the RRDEIR No. 2 and do not require formal written response.

Response to SBVAS1-23
The comment relates to land use and zoning issues. The RRDEIR No. 2 represented the recirculation of only the Biological Resources section of the Project EIR, and, therefore, any comments not related

to the Biological Resource analysis are outside the scope of the RRDEIR No. 2 and do not require formal written response.

Response to SBVAS1-24
The comment relates to land use and zoning issues. The RRDEIR No. 2 represented the recirculation of only the Biological Resources section of the Project EIR, and, therefore, any comments not related to the Biological Resource analysis are outside the scope of the RRDEIR No. 2 and do not require formal written response.

Response to SBVAS1-25
The RRDEIR No. 2 analyzed impacts to on-site jurisdictional drainages. Based on jurisdictional delineation prepared for the Project, development of the Project will result in disturbance of approximately 1.5 acres of jurisdictional "waters of the U.S." within the Project site. The identified drainages are ephemeral in nature and do not represent right pairing in the wetlands habitat. Based on the current site plan, the Project would impact approximately 0.04 acre of jurisdictional drainages. Such impacts shall be mitigated through implementation of Mitigation Measure BR-13 (RRDEIR No. 2, page 2-61) reducing such impacts to less than significant levels. Therefore, the Project is consistent with County of San Bernardino General Plan goals and policies relating to preservation of existing streams and waterways.

FCS Biologist Dennis Peterson visited the site on May 18, 2018, to verify that the Jurisdictional Delineation boundaries have not changed. Please see the memorandum dated May 28, 2018, describing the site conditions during the updated jurisdictional delineation (see Appendix E of this 2020 Final EIR). A total of 1.5 acres of jurisdictional waters were mapped on-site, of which only 0.04 acre will be impacted.

Response to SBVAS1-26
The commenter asserts that introduction of new source lights through streets lights for the Project will result in significant impacts to the Fawnskin community's cherished dark skies and the best way to preserve the dark night sky is to preserve the existing General Plan designation. Mitigation Measure BR-9 (RRDEIR No. 2, page 2-60) specifically requires that street lamps on the Project site shall not exceed 20 feet in height and shall be fully shielded to focus light onto the street surface avoiding any light spillover onto adjacent open space or properties. Furthermore, the streetlights are required to utilize low color temperature lighting to further reduce light and glare. Finally, Mitigation Measure BR-10 (RRDEIR No. 2, page 2-61) also limits the brightness of all outdoor lighting for any proposed homes developed within the Project site. These mitigation measures will reduce the impacts from the Project to less than significant level and ensure consistency with County of San Bernardino's General Plan goals and policies relating to mountain region dark-night sky resources.

Response to SBVAS1-27
The comment relates to land use and zoning issues. The RRDEIR No. 2 represented the recirculation of only the Biological Resources section of the Project EIR, and, therefore, any comments not related to the Biological Resource analysis are outside the scope of the RRDEIR No. 2 and do not require formal written response.

Response to SBVAS1-28

The comment relates to land use and zoning issues. The RRDEIR No. 2 represented the recirculation of only the Biological Resources section of the Project EIR, and, therefore, any comments not related to the Biological Resource analysis are outside the scope of the RRDEIR No. 2 and do not require formal written response.

Response to SBVAS1-29

The comment relates to land use and zoning issues. The RRDEIR No. 2 represented the recirculation of only the Biological Resources section of the Project EIR, and, therefore, any comments not related to the Biological Resource analysis are outside the scope of the RRDEIR No. 2 and do not require formal written response.

Response to SBVAS1-30

The comment relates to land use and zoning issues. The RRDEIR No. 2 represented the recirculation of only the Biological Resources section of the Project EIR, and, therefore, any comments not related to the Biological Resource analysis are outside the scope of the RRDEIR No. 2 and do not require formal written response.

Response to SBVAS1-31

The comment relates to land use and zoning issues. The RRDEIR No. 2 represented the recirculation of only the Biological Resources section of the Project EIR, and, therefore, any comments not related to the Biological Resource analysis are outside the scope of the RRDEIR No. 2 and do not require formal written response.

Response to SBVAS1-32

The commenter asserts that the significance determinations regarding impacts to wildlife species included in the RRDEIR No. 2 are not supported by substantial evidence. Section 2, page 2-1, of the RRDEIR No. 2 provides comprehensive analysis of the Project's potential impacts to threatened, endangered and sensitive plant and wildlife species occurring or potentially occurring on the Project site. The RRDEIR No. 2 includes a detailed analysis of the Project's potential impacts to 27 special-status plant species and 22 special-status wildlife species. The RRDEIR No. 2 concluded that the Project would have a less than significant impact, with incorporation of mitigation, to all special-status plant and wildlife species with the exception of the American bald eagle. With regard to special-status wildlife species, except for the American bald eagle, the RRDEIR No. 2 concluded that "the loss of habitat, loss of wildlife, wildlife displacement, and habitat fragmentation that would result from construction of the 2011 Alternative Project would not be considered significant because these impacts would substantially diminish habitat from wildlife in the region nor reduce any specific wildlife populations in the region to below self-sustaining numbers" (RRDEIR No. 2, page 2-50). Initially, this conclusion is supported by the limited development footprint of the Project. The Project proposes development of 50 single-family residents upon approximately 62 acres. Of those 62 acres, approximately 10 acres on-site will be maintained as Open Space. Additionally, as mitigation for impacts to sensitive plant species, an additional 10-acre off-site parcel will be permanently preserved and burdened by creation of a conservation easement. Project lot layout and location of the Open Space areas was strategically developed to maximize conservation of sensitive plant and wildlife species. The Project also involves the development of a 55-slip marina. However, as indicated in the RRDEIR No. 2, the lake shoreline adjacent to the Project site contains approximately 4 acres of

ruderal lake shoreline plant species that would be impacted by the Project (RRDEIR No. 2, page 2-50). The 2008 and 2010 Supplemental Focused Special Status Plant Surveys concluded that the shoreline portion of the Project site does not support any sensitive plant species. Additionally, focused surveys conducted for the southwestern willow flycatcher concluded that, although this species may visit the Project site, the quality and quantity of the habitat along the shoreline is not sufficient to support breeding populations of the species (RRDEIR No. 2, page 2-29). Accordingly, development of the marina portion of the Project will not result in a significant impact to sensitive wildlife species. With regard to the southern rubber boa and San Bernardino mountain flying squirrel, multiple Focused Surveys analyzing the Project's impact to these species concluded that implementation of the Project would not result in a significant impact. With regard to the southern rubber boa, Focused Surveys conducted in 2002 and 2007 confirm the absence of the species on-site. The surveys also concluded that the southern rubber boa was not likely to occupy the Project site because of Project's location and other habitat characteristics absent from Project site (RRDEIR No. 2, page 2-27). A focused survey for San Bernardino flying squirrels was conducted on the Project site in 2007 and the results were negative. However, an individual of the species was trapped in 1998 by the USFS approximately 0.5-mile north of the northern boundary of the Project site (RRDEIR No. 2, page 2-33). The analysis concluded that the Project site provided suitable foraging habitat for the species and the potential for occurrence is considered high despite the negative 2007 Focused Survey. Based on the moderate potential for occurrence, the RRDEIR No. 2 proposed Mitigation Measure BR-3 (RRDEIR No. 2, page 2-58) has been revised to require the following:

BR-3 ~~The project proponent shall have a biologist qualified with San Bernardino flying squirrel (SBFS) as a monitor during tree removal. Minimize the number of trees, snags, and downed wood removed for project implementation. Compensating the removal of snags containing cavities; this would be achieved by constructing and erecting two nest boxes and one aggregate box per snag removed. Appendix A of this Revised and Recirculated Draft EIR No. 2 provides the specifications of the nest and aggregate boxes (Flying Squirrels 2007). These boxes should be located on the adjacent U.S. Forest Service (USFS) land (with their permission) and the locations marked with a global positioning system. The locations of the boxes shall be provided to the USFS so that their biologists could monitor the boxes for occupation by SBFS.~~

~~Provide new homeowners with a flyer that would provide information on the biology of SBFS and how they are susceptible to depredation by cats. The flyer would also outline steps that homeowners could take to reduce their urban edge effects.~~

Given the negative results of on-site surveys and the available technical and peer reviewed literature, negative effects to the San Bernardino flying squirrel are not expected. However, because marginal foraging habitat was found on-site, the following mitigation measures will be implemented in the lots with densely forested areas and snags. These mitigation measures are to be implemented to avoid and minimize impacts to San Bernardino flying squirrels:

- The Project Applicant shall have a qualified biologist as a monitor just prior to and during all tree removal on-site.

- Minimize the removal of large coarse woody debris (>10cm diameter), which provide microhabitat for the growth of hypogeous fungi.
- Limit removal of standing snags (>25cm dbh) and large trees (>25cm dbh), which provide both structural complexity and potential nesting habitat.
- Prioritize the retention of large trees and snags with visible potential cavity nesting structures, which are associated with higher densities of northern flying squirrels.
- Minimize the loss of continuous canopy closure, especially in the drainages, which provides protection from predators while foraging and may play an important role in maintaining habitat connectivity.
- The Project Applicant must compensate for the removal of suitable habitat through construction and erection of two nest boxes and one aggregate box per snag removed.
- The Project Applicant is required to provide homeowners with information on the biology of the San Bernardino flying squirrel and suggest steps that homeowners can take to reduce their urban-edge effects.
- All subsequent home developers must comply with these provisions which shall be enforced by the County of San Bernardino through implementation of the Mitigation Monitoring and Reporting Program as mandated by CEQA.

If the monitoring biologist observes a San Bernardino flying squirrel during pre-construction and/or construction monitoring, the biologist will immediately halt work until the occupied tree can be vacated prior to felling the tree; however, if the work is during the nesting season (generally March through May), when baby squirrels could be present, the nest will not be vacated until after the nesting season ends (June 1st), as cleared by the monitoring biologist.

Please refer to Section 4: Errata of this FEIR, showing detailed revisions to mitigation measures.

With limited habitat disturbance and implementation of mitigation measures, the RRDEIR No. 2 includes substantial evidence that impacts to the San Bernardino flying squirrel will be less than significant. The RRDEIR No. 2 does identify potentially significant impacts to the American bald eagle. The Project will be developed consistent with the County of San Bernardino Plant Protection and Management Ordinance (County Code § 89.0110(b)), which prohibits the removal of bald eagle perch trees within an identified American bald eagle habitat unless the perch tree creates a hazardous condition. The RRDEIR No. 2 imposed multiple mitigation measures to reduce the impact to the bald eagle, including requirements to replace perch trees (should they become hazardous and require removal) at a ratio of 5:1, replacement of trees 24 inches dbh and larger that are removed during construction activities at a ratio of 2:1. Therefore, even if perch trees or other large trees that may be used by the bald eagle are removed, they will be replaced to sufficiently mitigate the impacts. Based on this analysis, there is no evidence that the Project, as designed, will directly reduce the number of any sensitive wildlife species.

Similarly, the RRDEIR No. 2 concluded that the Project would have a less than significant indirect impact to wildlife species due to loss of habitat or habitat fragmentation. Initially, the Project site is

adjacent to the community of Fawnskin on the north, northwest, and west side of the Project site. The community of Fawnskin is developed with single-family residential uses primarily with little preserved Open Space providing connective habitat to the Project site. After Project development, the northeast and eastern portions of the Project site will remain undisturbed San Bernardino National Forest land under the management of the USFS. Accordingly, the Project is not fragmenting any special-status wildlife species habitat as the Project is the extension of development in Fawnskin to the south and southeast. Therefore, the RRDEIR No. 2 concluded that the Project site did not consist of any wildlife crossings or corridors (RRDEIR No. 2, page 2-55). Additionally, the Project site is dominated by Jeffrey Pine Forest habitat totaling approximately 54.92 acres (RRDEIR No. 2, pages 2-3 and 2-4). Approximately 50 acres of Jeffrey Pine Forest, including 13.81 acres of open Jeffrey Pine Forest. As indicated in the RRDEIR No. 2, approximately 58,526 acres of Jeffrey Pine Forest occurs in the San Bernardino National Forest (RRDEIR No. 2, page 2-49). Accordingly, development of the Project within approximately 50 acres of Jeffrey Pine Forest does not result in a significant impact to the Jeffrey Pine Forest habitat, and the special-status wildlife species that occupy such habitat, considering the amounts of similar habitat that continues to exist in the Project area, including those portions of the USFS-managed lands adjacent to the Project site.

Response to SBVAS1-33

The commenter believes the RRDEIR No. 2 does not contain evidence to support the conclusion that loss of forging habitat for wildlife species would be considered adverse or less than significant. The dominant plant community and characteristics of the Project site is Jeffrey Pine Forest. A total of approximately 50 acres of Jeffrey Pine Forest, including 13.81 acres of open Jeffrey Pine Forest would be impacted by development of the Project (RRDEIR No. 2, pages 2-49 and 2-50). Jeffrey Pine Forest is a dominant habitat throughout the Big Bear area. There are approximately 58,526 acres of Jeffrey Pine Forest occurs in the San Bernardino National Forest. Because the Project will impact an extremely small portion of rather abundant Jeffrey Pine Forest habitat, the RRDEIR No. 2 concluded that the Project would have a less than significant impact on special-status wildlife species due to loss of habitat. Additionally, the Project will impact approximately 4 acres of ruderal shoreline plant species. The 2008 and 2010 Supplemental Focused Special Status Plant Surveys concluded that the shoreline portion of the Project site does not support any sensitive plant species. Additionally, focused surveys conducted for the southwestern willow flycatcher concluded that, although this species may visit the Project site, the quality and quantity of the habitat along the shoreline is not sufficient to support breeding populations of the species (RRDEIR No. 2, page 2-29). Impacts to only 4 acres of shoreline habitat are insufficient to result in a significant indirect impact to special-status wildlife plant species.

Response to SBVAS1-34

The RRDEIR No. 2 includes a comprehensive analysis of the Project's potential impacts to the American bald eagle. Many of the trees located on the Project site have been identified as bald eagle perch trees. Surveys and records searches were conducted for the Project site in the winter of 2002 and 2007, which determined that bald eagles use the site extensively. Bald eagle perch locations were recorded and individual trees were marked with numbered tags (RRDEIR No. 2, page 2-29). However, there are no records showing that bald eagles had historically nested on the Project site and neither the 2002 nor 2007 survey found nesting bald eagles on the Project Site. The proposed mitigation measures prohibit the intentional removal of identified perch trees as a component of

Project development, but noted that perch trees may need to be removed in the future if they create a hazardous condition. The potential for future removal of bald eagle perch trees, along with additional light and glare/noise introduced into the area by the Project, is considered a potentially significant CEQA impact. Mitigation Measures BR-4, BR-6 and BR-7 (RRDEIR No. 2, page 2-59 and 2-60) will reduce impacts to the bald eagle. These mitigation measures include:

- Replacement of removed perch trees (should that be necessary) at a ratio of 5:1 with creation of artificial perch trees within the Conservation Areas or by enhancing other trees by trimming and limbing to make suitable for eagle perching. The exact method of perch tree replacement shall be made after consultation with a certified arborist. Prior to commencement of construction activity, the applicant shall have a qualified consultant survey all trees on-site to determine the location of all perch trees to be preserved. (Mitigation Measure BR-4)
- Replacement of identified non-perch trees larger than 24 inches dbh, removed as part of project development, at a ratio of 2:1 (Mitigation Measure BR-4)
- Pre-construction survey of trees to identify existence of active nests. Active nests will be protected and avoided (Mitigation Measure BR-6)
- All vegetation removal, clearing, and grading on the Project site must be performed outside the breeding and nesting season to minimize effects to the Bald Eagle (Mitigation Measure BR-7)

The commenter is concerned about the enforceability of the bald eagle mitigation measures. All of these mitigation measures will be enforced by the County of San Bernardino as part of the Project's Mitigation Monitoring program that will be adopted as part of the Project approval process. Despite implementation of these mitigation measures, impacts were determined to be significant unavoidable, due to the very strict County of San Bernardino criteria for determining CEQA impacts to bald eagles. Any removal of perch trees or human activity resulting in the introduction of additional light and/or noise impacts is considered a significant impact under CEQA. Therefore, although the impacts are identified as significant and unavoidable, the proposed mitigation measures significantly reduce these impacts. Neither the focused surveys nor the RRDEIR No. 2 concludes that the Project will have a direct impact on the bald eagle resulting in the decline of the species in the Big Bear area.

Response to SBVAS1-35

The commenter is concerned that the RRDEIR No. 2 does not propose adequate mitigation for the protection of bald eagle perch trees. Focused bald eagle surveys conducted in 2002 and 2007 identified the most important bald eagle perch trees on-site. As reflected in Exhibit 2-3 of the RRDEIR No. 2, the surveys identified nine (9) known bald eagle perch trees on-site. The Project is designed so that six (6) of the trees are located within Open Space areas that will not be disturbed during Project development. The remaining three perch trees are located within the boundaries of developable lots. Initially, it is noted that the County of San Bernardino Plant Protection and Management Ordinance (County Code § 89.0110(b)) prohibits the removal of bald eagle perch trees, within an identified American bald eagle habitat, unless the perch tree creates a hazardous condition. Additionally, the RRDEIR No. 2 imposes mitigation designed to protect the continued existence of these important perch trees. These mitigation measures include:

- Replacement of removed perch trees (should that be necessary) at a ratio of 5:1 with creation of artificial perch trees along the shoreline designated Open Space or by enhancing other trees by trimming and limbing to make suitable for eagle perching. The exact method of perch tree replacement shall be made after consultation with a certified arborist. Prior to commencement of construction activity, the applicant shall have a qualified consultant survey all trees on-site to determine the location of all perch trees to be preserved. (Mitigation Measure BR-4 [RRDEIR No. 2, page 2-59])
- Replacement of identified non-perch trees larger than 24 inches dbh, removed as part of Project development, at a ratio of 2:1 (Mitigation Measure BR-4)

Even though the removal of perch trees is already prohibited by the County Code, the RRDEIR No. 2 imposes an additional prohibition upon removal that will become part of the project conditions of approval and enforced by the County of San Bernardino as part of the Project's Mitigation and Monitoring program in compliance with CEQA. A total prohibition on perch tree removal, with possible civil and criminal penalties for violation of the prohibition is a strong deterrent that promotes the perpetual protection of the trees. In the unfortunate situation where a perch tree must be removed to protect the health and safety of the public, it must be replaces at a ratio of 5:1. The commenter requests that the perch trees located on developable lots should be placed in Open Space areas. Because of the location of those three trees, Project redesign resulting in elimination of three lots would be required. Because of the significant reduction in density since the original Project was proposed in 2002, such a redesign is infeasible from an economic and planning perspective. Moreover, creating additional Open Space areas for these three perch trees would not eliminate the significant impact due to the introduction of additional light and noise sources through Project development.

Refer to Appendix I of this 2020 Final EIR for the recent Technical Review of the Biological Database for the Moon Camp Project Site prepared by ELMT Consulting for additional analysis of known and potential special-status species.

Response to SBVAS1-36
Surveys and records searches were conducted for the Project site in the winter of 2002 and 2007, which determined that bald eagles use the site extensively. Bald eagle perch locations were recorded and individual trees were marked with numbered tags (RRDEIR No. 2, page 2-29). However, there are no records showing that bald eagles had historically nested on the Project site and neither the 2002 nor 2007 survey found nesting bald eagles on the Project Site. Although no nesting bald eagles were discovered on-site during the focused surveys, the site provides suitable nesting habitat. To ensure impacts to nesting bald eagles is limited to the extent feasible, the RRDEIR No. 2 proposes Mitigation Measure BR-6. Mitigation measure BR-6 (RRDEIR No. 2, page 2-59) requires pre-construction surveys for active nests by a qualified biologist. If active nests are found, the nest must be protected until nesting activity has ended. Required protective measures include establishment of a 300-foot buffer zone around active nests (RRDEIR No. 2, page 2-60). Moreover, use of the marina is prohibited between December 1 and April 1, the bald eagle wintering season in the Big Bear area (Mitigation Measure BR-8 [RRDEIR No. 2, page 2-60]). Therefore, should bald eagles nest on the Project site, the imposition of the mitigation measures will reduce the Project's impacts.

With few exceptions, the Bald and Golden Eagle Protection Act (16 USC 668–668d) prohibits take of Bald Eagles and Golden Eagles. Unlike the MBTA, which defines "take" to mean only direct killing or taking of birds or their body parts, eggs, and nests, the Bald and Golden Eagle Protection Act defines take in a manner similar to FESA as including "pursuing, shooting, shooting at, poisoning, wounding, killing, capturing, trapping, collecting, molesting, and disturbing," with "disturb" further defined (50 CFR 22.3) as "to agitate or bother a Bald or Golden Eagle to a degree that causes, or is likely to cause, based on the best scientific information available; (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior." The requirements for guarding against impacts to eagles generally are far more stringent than those required by the MBTA alone. Therefore, the Project is designed to avoid known perching trees along the shoreline of Big Bear Lake and mitigation measures are in place to replace trees that have to be removed with artificial perches. As explained and referenced on pages 1 and 2 in the Technical Review of the Biological Database for the Moon Camp Project Site prepared by ELMT Consulting, the bald eagles are becoming more accustomed to human interaction and take of the species is not expected as a result of the Moon Camp Project (see Appendix I of this 2020 Final EIR).

Response to SBVAS1-37
Please see Responses to SBVAS1-34 through -36 above.

Response to SBVAS1-38
The commenter asserts that the RRDEIR No. 2 failed to analyze the Project's impacts on forging habitats of the bald eagle due to Project development. The RRDEIR No. 2 does conclude that the Project has a significant unavoidable impact on the bald eagle primarily due to the existence of human habitation and close proximity to bald eagle forging habitat. The RRDEIR No. 2 concludes that despite imposition of mitigation measures regarding preservation of perch trees, replacing of perch trees, restriction of construction activity during nesting periods and restriction on the use of the marina during bald eagle nesting periods, the Project would still have a significant unavoidable impact to the bald eagle, but would not result in take as defined pursuant to the CESA and the Bald and Golden Eagle Protection Act. With few exceptions, the Bald and Golden Eagle Protection Act (16 USC 668–668d) prohibits take of Bald Eagles and Golden Eagles. Unlike the MBTA, which defines "take" to mean only direct killing or taking of birds or their body parts, eggs, and nests, the Bald and Golden Eagle Protection Act defines take in a manner similar to FESA as including "pursuing, shooting, shooting at, poisoning, wounding, killing, capturing, trapping, collecting, molesting, and disturbing," with "disturb" further defined (50 CFR 22.3) as "to agitate or bother a Bald or Golden Eagle to a degree that causes, or is likely to cause, based on the best scientific information available; (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior. " Therefore, the requirements for guarding against impacts to eagles generally are far more stringent than those required by the MBTA alone. Therefore, the Project is designed to avoid known perching trees along the shoreline of Big Bear Lake and mitigation measures are in place to replace trees that have to be removed with artificial perches. As explained and referenced in the recent Technical Review of the Biological Database for the Moon Camp Project Site prepared by ELMT Consulting, the bald eagles are becoming more

accustomed to human interaction, and take of the species is not expected as a result of the Moon Camp Project (see Appendix I of this 2020 Final EIR).

Response to SBVAS1-39
See Response to Response to SBVAS1-38.

Response to SBVAS1-40
The commenter asserts that the environmental baseline discussion of the Project Description is inadequate and inaccurate because some of the trees on the property have recently died or have been cut since the RRDEIR No. 2 was released from public review. Even assuming the commenter is correct and a number of pine trees have been removed from the Project site, the existing project description remains valid and legally adequate for CEQA purposes. The general description of the environmental setting and resources existing on-site is general in nature and intended to give the reviewing public an understanding of the environmental baseline against which the impacts to the Project are analyzed. The loss of a few trees does not alter the informational value presented by the existing project description, nor does it invalidate the environmental analysis based thereon,

Response to SBVAS1-41
Please see Response to SBVAS1-34 through -36 above. The commenter is correct that replacement of trees larger than 24-inch dbh does not reduce the significant impacts to the bald eagle. As indicated in the RRDEIR No. 2, impacts to the bald eagle are considered significant and unavoidable. However, although trees removed may be much larger than 24 inches dbh, replacement of such trees at a 2:1 ratio helps limit Project impacts to the bald eagle. The County of San Bernardino acknowledges that such mitigation will not totally mitigate the impacts of the loss of much larger trees that bald eagles are familiar with and have potentially used in the past. However, it is infeasible to replace any lost trees with trees of the exact size and stature of those removed.

Response to SBVAS1-42
Please see Response to SBVAS1-34 through 36 above.

Response to SBVAS1-43
The commenter questions the adequacy of the proposed mitigation for the ashy-grey Indian paintbrush. The 2010 Supplemental Focused Special Status Plant Survey prepared by Dr. Krantz concluded that, based on careful examination of the Project site and documentation of individual occurrences of ashy-grey Indian paintbrush, there were 5,567 individual plant occurrences on the Project site, 4,895 of which are located within the identified Conservation Areas Lot A and Lot H. Appendix I of this 2020 Final EIR provides updated 2018 totals for the ashy-grey Indian paintbrush habitat, where it was concluded that there were approximately 7.71 acres of occupied ashy-grey Indian paintbrush habitat on the Project site, 4.84 of which is permanently preserved in the creation of Conservation Areas represented by Lot A and Lot H. Utilizing individual plant occurrences, creation of Lot A and Lot H results in preservation of 88 percent of the identified individuals, or mitigation of a ratio of 7:1. Utilizing occupied habitat acreage, the Project provides mitigation in excess of 1.68:1. Although other portions of the Project site contain plant species that have been associated with ashy-grey Indian paintbrush, such as the Wright's matting buckwheat, the lifecycle of the ashy-grey Indian paintbrush species is such that it is unlikely that the Wright's matting buckwheat would ever host ashy-grey Indian paintbrush occurrences. Ashy-grey Indian paintbrush is

a hemi-parasite on its host plants, and does not readily disperse; dropping its seeds in the immediate vicinity of the host plants themselves. Thus, the actual occupied habitat for ashy-grey Indian paintbrush does not change from year to year. According to CEQA Mandatory Findings of Significance, the Project will result in a significant adverse impact on threatened species such as the ashy-grey Indian paintbrush. However, the County of San Bernardino believes that the permanent protection of 88 percent of the ashy-grey Indian paintbrush population on-site, together with protection of the Knoll "pebble plain" on-site, and the Dixie Lee Lane pebble plain off-site represent substantial benefits to these same resources that override the adverse impacts of loss of some ashy-grey Indian paintbrush habitat.

An updated survey completed in 2016 by Dr. Krantz notes that there are essentially no changes in the distributions of rare plant species occurring on the Moon Camp property in comparison with previous surveys and as described in the RRDEIR (see Appendix K of this 2020 Final EIR).

Refer to Appendix I of this 2020 Final EIR for the recent Technical Review of the Biological Database for the Moon Camp Project Site prepared by ELMT Consulting for additional analysis of known and potential special-status species. Pages 2 through 4 address the ashy-grey Indian paintbrush, and Table 1 shows the habitat numbers for ashy-grey Indian paintbrush.

Response to SBVAS1-44

The Project as designed will result in a creation of two conservation easements (Lot A, a 3.4-acre Open Space/Conservation Area and Lot H, a 1.9-acre Open Space/Conservation Area; which combined contain 4.84 acres of occupied ashy-grey Indian paintbrush habitat) for preservation of ashy-grey Indian paintbrush, as well as preservation of a 10-acre parcel off-site, the Dixie Lee Lane property, comprised of pebble plain habitat. The commenter asserts that avoidance of impacts to ashy-grey Indian paintbrush and permanent preservation of on-site habitat may not be utilized as "mitigation" for a species otherwise impacted by the proposed development. Instead, commenter asserts species impacted by the Project only can be mitigated through preservation of off-site habitat. This is not a correct statement of the law. Initially, CEQA does not require imposition of mitigation measures where there is no identified significant impact (Public Resource Code § 21100(b)(3), § 21150; CEQA Guidelines Section 15126.4(a)—discussion of Mitigation Measure is required only for significant environmental impacts). Therefore, if an impact is avoided in its entirety, no mitigation is required. As a result, contrary to the commenter's assertions, preservation of the ashy-grey Indian paintbrush occurrences in the identified Open Space/Conservation Areas is not "mitigation" for the plant occurrences within those designated areas. CEQA authorizes preservation of special-status plant species occurring on-site as mitigation for impacts to those species. See *Miramar Mobile Community v. City of Oceanside* (2004) 119 Cal. App. 4th 477. Accordingly, the RRDEIR No. 2 appropriately characterized preservation of an on-site occurrence of ashy-grey Indian paintbrush as mitigation for impacts to that species occurring elsewhere on the Project site. Additionally, Appendix K of this 2020 Final EIR provides an updated survey completed in 2016 by Dr. Krantz noting that there are essentially no changes in the distributions of rare plant species occurring on the Moon Camp property in comparison with previous surveys, and as described in the RRDEIR.

Refer to Appendix I of this 2020 Final EIR for the recent Technical Review of the Biological Database for the Moon Camp Project Site prepared by ELMT Consulting for additional analysis of known and

potential special-status species. Pages 2 through 4 address the ashy-grey Indian paintbrush, and Table 1 shows the habitat numbers for ashy-grey Indian paintbrush.

Response to SBVAS1-45 and -46

Please refer to Response to SBVAS No. 44. One of the primary objectives of the Supplemental Focused Special Status Plant Survey was to provide both quantitative and qualitative information on the rare plant populations occurring on the Moon Camp site, as well as on the proposed off-site mitigation area at Dixie Lee Lane in Sugarloaf. Populations of sensitive plant or animal species can be calculated in terms of acreage or actual numbers. Raw acreage is a discrete means of comparing "occupied" habitat on-site with other occupied habitats but does not provide qualitative habitat information. In the case of Moon Camp populations, the occupied habitat acreage of ashy-grey Indian paintbrush exhibits typical low-to-high densities on Lots 1-5, 47, 49, and Lot A, with numbers of individuals ranging from a few dozen to several hundred individuals per acre. A simple calculation of occupied habitat by itself, however, would completely ignore the fact that the population included within the newly established Lot H contains densities of ashy-grey Indian paintbrush as much as twenty times that of the other areas—indeed, one of the highest densities that Dr. Krantz has observed throughout the distribution of the species. Hence, Lot H was created to protect this unique occurrence of ashy-grey Indian paintbrush, and the actual estimated numbers (based on quantitative belt transects within Lot H) of individual plants was calculated and used to help delineate the Letter Lot so as to conserve the best (qualitatively) habitat on the Moon Camp property.

Response to SBVAS1-47

During the surveys that led to the 2010 Supplemental Focused Special Status Plant Survey, Dr. Krantz utilized GPS technology to identify and locate discrete occurrences of ashy-grey Indian paintbrush occurring throughout the Project site. Total occupied habitat located within Lots 1 through 5, 47 through 50, Lot F and driveway, and road and road right-of-way, equals 2.87 acres. Although a good portion of the 2.87 acres is located within identified building setbacks and therefore may not be disturbed through Project development, the RRDEIR No. 2 utilized a worst-case analysis and assumed that all 2.87 acres of occupied habitat would be disturbed due to a lack of formal protection for these areas. The RRDEIR No. 2 has been revised to clarify this calculation.

Additionally, Appendix K of this 2020 Final EIR provides an updated survey completed in 2016 by Dr. Krantz noting that there are essentially no changes in the distributions of rare plant species occurring on the Moon Camp property in comparison with previous surveys, and as described in the RRDEIR.

Refer to Appendix I of this 2020 Final EIR for the recent Technical Review of the Biological Database for the Moon Camp Project Site prepared by ELMT Consulting for additional analysis of known and potential special-status species. Pages 2 through 4 address the ashy-grey Indian paintbrush, and Table 1 shows the habitat numbers for ashy-grey Indian paintbrush.

Response to SBVAS1-48

The Dixie Lee Lane pebble plain was originally surveyed by Hicks & Hartwick Engineering as a curvilinear 10-acre pebble plain, the exterior lines of the parcel conforming to the benchtop opening of the pebble plain, including Pinyon Pines and Jeffrey Pines within the general distribution of the pebble plain habitat. Hence, the delineation of the 10-acre parcel generally conforms to the actual

pebble plain configuration, such that the proposed 10-acre mitigation parcel conforms very closely to the distribution of pebble plains species on the ground.

Response to SBVAS1-49

The commenter claims that the analysis included in the RRDEIR No. 2 regarding potential impacts to the southern rubber boa are legally inadequate because the survey stops short of following recommended protocol. Moreover, the commenter asserts that the discussion and conclusions are based on out-of-date information. The RRDEIR No. 2 analyzes the Project's potential impacts to the southern rubber boa, a federal species of concern and State-listed threatened species. As indicated in the RRDEIR No. 2, known locations for the species occur on the north-facing slopes immediately south of Big Bear Lake. Surveys for the species were conducted in the spring and summer of 2002, as well as 2007 (RRDEIR No. 2, page 2-27). No southern rubber boas were encountered during the surveys. Given the lack of historical records in the immediate vicinity of the Project site and the fact that the Project site is on the north side of Big Bear Lake on a south-facing slope, there is a low potential for the southern rubber boa to occur on the Project site (RRDEIR No. 2, page 2-27). Accordingly, the RRDEIR No. 2 adequately analyzes the potential for the Project to have a significant impact on this species.

Refer to Appendix I of this 2020 Final EIR for the recent Technical Review of the Biological Database for the Moon Camp Project Site prepared by ELMT Consulting for additional analysis of known and potential special-status species. Furthermore, Dr. Stewart's habitat assessment showed that the Moon Camp Tract is poor southern rubber boa habitat and is outside the area mapped as potential southern rubber boa habitat in the Forest Service habitat management guide (see Appendix J of this 2020 Final EIR). There have been no southern rubber boa sightings in the area; therefore, there is no suitable habitat to map.

Response to SBVAS1-50

The commenter asserts that the mitigation for the southern rubber boa is ineffective at preserving habitat since the setbacks are in private lots and there is no mechanism to enforce their preservation. Initially, as indicated in Response to SBVAS1-49, numerous surveys for the southern rubber boa concluded that it has a low potential to occur on the Project site. The identified Mitigation Measure BR-2 is not specifically intended to mitigate potentially significant impacts to the southern rubber boa. However, Mitigation Measure BR-2 (RRDEIR No. 2, page 2-58) will further the preservation of any southern rubber boa to the extent they exist on the Project site in the future.

Response to SBVAS1-51

The commenter asserts that the RRDEIR No. 2 is inadequate because it fails to analyze impacts to the California spotted owl and no mitigation has been implemented for a loss of suitable habitat. Page 2-30 of the RRDEIR No. 2 includes an analysis of the potential impacts to the California spotted owl. As indicated therein, surveys were conducted for the species on the Project site and although one male spotted owl was detected approximately 1 mile to the northwest of the Project site, no nesting pairs or individuals were observed on the Project site. The San Bernardino National Forest has been conducting Focused Owl Surveys for the past several years and all the identified known breading owls and territories are located several miles north of the Project site in the dense conifer forest. Accordingly, no individual nesting pairs were found on the Project site. However, individuals do have

the high potential to forge on the Project site. As indicated in the Project Description, the Project will result in the disturbance of approximately 62 acres currently bounded by the lake and SR-38 to the south, community of Fawnskin to the west and the northwest, and other residential development to the southeast. Despite the development, there remains abundant California spotted owl habitat to the north and the northeast on property under the management of the USFS where surveys have identified California spotted owl presence. Based on the minimal acreage currently disturbed by the Project, the loss of approximately 62 acres of suitable habitat close to human habitation and existing development will not result in a significant impact to the California spotted owl.

Response to SBVAS1-52

The commenter provides a general comment regarding its opposition to the Project but no specific comment related to the adequacy of the EIR. Therefore, no formal written response is required. The comment is noted and will be forwarded to the decision-makers.

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Slowik, Matt - LUS

From: Drew Feldmann [drewf3@verizon.net]
Sent: Monday, January 23, 2012 1:48 AM
To: Slowik, Matt - LUS
Cc: Watson, George; Supervisor Derry; Kelly, Christine - LUS
Subject: Moon Camp
Attachments: Audubon Moon Camp extension request.doc

Mr. Slowik,

Please see the attached letter from the San Bernardino Valley Audubon Society,

Thank you.

Drew Feldmann
Conservation Chair

San Bernardino Valley Audubon Society
P. O. Box 10973, San Bernardino, California 92423-0973

January 22, 2012

County of San Bernardino
Land Use Services Dept.; Advance Planning Div.
385 N. Arrowhead Ave., First Floor
San Bernardino, CA 92415-0182
Attn: Matthew Slowik

Re: Revised and Recirculated DEIR No. 2 for the Moon Camp Development Project/RCK Properties Inc (SCH #2002021105)—Request for Public Comment Deadline Extension

Dear Mr. Slowik,

The San Bernardino Valley Audubon Society respectfully requests an extension to the deadline for Public Comment to be received for the Revised and Recirculated DEIR No. 2 for the Moon Camp Development Project. The San Bernardino Valley Audubon Society, the local chapter of the National Audubon Society, is a nonprofit all-volunteer organization that represents some 2,000 residents of the Inland Empire, who greatly enjoy the benefits of the San Bernardino Mountains as one of the most outstanding natural areas of Southern California.

Since our chapter (in spite of its name) is responsible for both San Bernardino and Riverside Counties, we have a large workload at any given time. The release of the DEIR for public review over the Christmas and New Year's holiday season has made it exceptionally difficult to give the document the due consideration it necessarily requires. 1

Thank you for your consideration in this request.

We also request also that we be notified of any extensions granted by return email to Drewf3@verizon.net.

Sincerely,

Drew Feldmann

Drew Feldmann
Conservation Chair

xc: Third District Supervisor Neil Derry
George Watson, Supervisor Derry Chief of Staff
Christine Kelly, Land Use Services Director

San Bernardino Valley Audubon Society (2) (SBVAS2)

Response to SBVAS2-1

The commenter requests the County of San Bernardino to extend the close of the public review period for adequate review. The County of San Bernardino extended the public review period to February 7, 2012, for the RRDEIR No 2. No additional response is necessary.

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Slowik, Matt - LUS

From: ednjeanne [ednjeanne@charter.net]
Sent: Tuesday, February 07, 2012 2:12 PM
To: Slowik, Matt - LUS
Subject: Moon Camp -Revised DEIR
Attachments: Revised EIR Comments.doc

Attached are our comments on the Revised Draft of the Moon Camp DEIR. This replaces the comments that we sent on 1/22/2012. 1

Ed Wallace
Conservation Chair
Big Bear Group
Sierra Club

SIERRA CLUB
FOUNDED 1892

Big Bear Group

San Gorgonio Chapter

PO Box 3048 Big Bear Lake CA. 92315

www.sierraclubbigbeargroup.org

The County of San Bernardino January 22, 2012
Land Use Services Department, Advanced Planning Division
385 N. Arrowhead Ave, First Floor
San Bernardino, CA 92415-0182

Attn: Matthew W. Slowik Senior Planner

RE: Revised and Recirculated Draft Environmental Impact Report for the Moon Camp Development Project/RCK Properties Inc. (SCH#2002021105)

The Big Bear Group of the Sierra Club representing over180 local members in the Big Bear Valley would like to thank you for the opportunity to comment on the above referenced Environmental Impact Report. Our comments are as follow:

1 CONT.

Biological Resources

- **MM BR- 1a**
  The 10 – acres comprising the Dixie Lee property is not all pebble plain. Isn't using the entire acreage as mitigation for loss of pebble plain disingenuous? We also reiterate our comments to the initial EIR.

It is our understanding that this pebble plain was totally set aside as mitigation for the pebble plain lost as a result of the construction of Big Bear High School, its parking lots and outdoor athletic facilities and thus cannot be used for further mitigation. The 2 acres suggested by Tim Krantz does not seem reasonable considering the size of the High School complex. Do you have documentation to support the claim made by Tim Krantz? If a portion of the Dixie Lee Pebble Plain can be used for mitigation what will be the size endowment and what will be the projected costs per year to manage and maintain the property? Have you developed a list of organizations that are interested in taking on the management functions? Have they actually been contacted? Do they agree that the proposed endowment is adequate? If this has not been done aren't your proposed mitigation and management just words on paper with no real substance? 1 CONT.

- **MM Br -1b**
  Has a list of qualified conservation entities been identified that are interested in managing the conservation easements? Do they agree the amount of the proposed endowment (whatever that is) is sufficient? The reason for this question is that putting this down in paper is easy finding qualified organizations that will actually take on this responsibility could prove to be difficult. Do you understand that until this is done it cannot be considered a valid mitigation? 2
- **MM BR-1c**
  What is the exact language in the CC&Rs for the project that penalizes future residents that violate the Conservation Areas? Can these CC&Rs be changed by a future home owners association? Does the County understand their enforcement responsibility for protection and landscaping reviews? Are you asking the county to take on responsibility that is not funded? 3
  Does the drainage on the individual lots flow onto the Conservation Areas?
  Being that the development allows grass lawns, what is affect on the plants in the Conservation Areas due to lawn fertilization?

- **MM BR-1d**

  What prevents the owner of the property from destroying the Ashy-Gray Paintbrush after they have occupied their homes? Has making the back of these lots a fenced conservation easement been considered? If not, why not? 4

- **MM BR-3**

  New home owners will be provided with a flyer that would provide information on the biology of the San Bernardino Flying Squirrel. This flyer would provide homeowners on information on how to reduce their urban edge effects. Who is responsible for producing this flyer? Is there any enforcement mechanism for those that ignore the information and recommendations? How will this information be passed along to homeowners in the future? 5

- **MM BR-4**

  Our experience is that contractors pay little attention to maintaining a safe distance from trees during construction and most are killed during the construction process. Inspection efforts by building departments are at best ineffective. How do you propose to change this on this project? Replacing a dead perch tree with any number of young trees will only mitigate the loss in about 200 years which is not mitigation as required under CEQA. Do you agree with this statement and if not why? MM BR-4 also suggests that artificial perch trees will be used to replace any existing trees that need to be taken down. Our observation is that the artificial trees have a short life span due to rotting and wind and will need to be replaced on a regular basis. If this is an acceptable mitigation measure who is responsible for maintaining and replacing these trees? How will this be funded in perpetuity? What is the projected cost on a yearly basis? 6

- **MM BR- 5**

  As stated above, our experience is that contractors pay little attention to maintaining a safe distance from trees during construction and most are killed during the construction process. Inspection efforts by building departments are at best ineffective. How do you propose to change this on this project? Who is responsible for explaining the 7

restrictions on individual lots to developers and homeowners? How do you propose enforce these restrictions? How will these restrictions be passed on to future homeowners' overtime? Do you believe that this can be affective in perpetuity? Please explain why? 7 CONT.

- **MM BR-6**
  Who has determined that a 300 feet clearing limit from a nesting site is sufficient? What is their expertise? 8

- **MM BR-7**
  Explain how an active nesting site will be protected during construction activities. Do you have documentation that shows these measures to be effective? Is it the same for all species of birds? 9

- **MM BR-8**
  The USFS closes down trailheads and picnic areas on November 1 in deference to bald eagles. Why does this development choose to use December 1? 10

- **MM BR -10**
  Who is responsible to explain the restriction on outdoor lighting to potential developers and homeowners? How will these restrictions be passed on to future homeowners' overtime? Do you believe that this can be affective in perpetuity? Please explain why? 11

- **MM BR- 11**
  Because of fire we read California building codes require 100 ft set back from wild lands. What set backs are being used in this development? Who is responsible for assuring that homeowners staying out of the pebble plains on the National Forest? How will this be enforced? What is the penalty for non- compliance? 12

- **A. 11 Revised Supplemental Focused Special Plant Species Survey III. PG- 4 & 1V. PG- 5**

  This section tries to reconcile the difference between White and Krantz regarding the presence of ashy-gray paint brush located in the southeast portion of the property. We believe that White, a competent biologist saw what he saw as did Krantz. Could it be that these plants 13

do not appear unless conditions in the area are conducive? Krantz indicates that he observed these areas in years with above average precipitation. Does the timing of this precipitation have anything to do with the appearance of these plants? Are there other factors that could explain the discrepancies? Has Krantz or anyone else contact White to get his read on these discrepancies? If no. why not? 13 CONT.

- **A. 11 Revised Supplemental Focused Special Plant Species Survey V PG 8**

The argument here seems to be that resident can't hike up 200' to impact these pebble plains on USFS property. Has Dr. Krantz had a look at all the illegal trails all over the north facing slope above Big Bear Lake? What cause these trails people are in close proximity to the forest. Won't homes in this project cause the same problem? What would he suggest as a real solution to this problem? 14

- **A. 11 Revised Supplemental Focused Special Plant Species Survey V1 PG8**

The purchase of the Dixie Lee Lane pebble plain has been suggested as mitigation for the loss of pebble habitat. It is our understanding that this pebble was previously set aside as mitigation for the construction impacts of Big Bear High School and its parking lots and outdoor athletic facilities and thus cannot be used for further mitigation. Also, the two acres of mitigation for the high school complex as suggested by Tim Krantz does not seem reasonable considering the size of the complex. Does documentation exist to support the claim? made by Mr. Krantz? Certainly records of any mitigation discussion must have been kept during the approval process. Do they exist at the school district offices or the county? Was this looked into by those being paid to put together this DEIR and the attached appendixes? If not, why? 15

- **Fire Considerations**

The proposed project increases density in an area of potentially extreme fire danger. The impacts need to be better evaluated Any project built in the San Bernardino Mountains today that significantly increases the temporary or permanent population of the area creates a 16

major problem should the Big Bear Valley need to be evacuated. The evacuation routes out of Big Bear are limited and subject to major traffic jams during an evacuation. This is further exacerbated should one or possibly two of the three routes be shut down. The potential for this to happen is real should there be a fast fire moving up the Bear Creek drainage. Public safety is the foremost responsibility of our government officials and should not be ignored. Every new development adds to the problem! The following is a recent quote from CDF Chief Ruben Grijaiva "As more people move into and live in the WUI (Wildland Urban Interface), more people are at risk during a wildfire, and more people are in need of evacuation. Fire ground commanders must use initial resources on evacuation, rather than control the fire perimeter. Fires grow while we evacuate more and more people." When these items are brought up in public meetings the county usually will refer to the adopted Emergency Operation Plan. This plan has never been scrutinized by the public but is doubtful that this Plan is backed up by recent traffic studies that would indicate the time necessary to evacuate the Big Bear Valley should this be required in a wild fire. Has this EIR attempted to look at evacuation problems or traffic studies? If only one route is open will it be used to evacuate or bring fire equipment up the hill? We have heard a number of supervisors state that the safety of the people is their primary concern. If this is true than the county must reject any high density development that has the potential of adding to the population density of the valley and the safety problems that it creates for the present occupants of the valley. A well done EIR must evaluate these problems. If not, why not?

16 CONT.

Respectively submitted

Ed Wallace, Conservation Chair, Big Bear Group, Sierra Club

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Sierra Club (Ed Wallace, February 7, 2012) (SIERRA CLUB1)

Response to SIERRA CLUB1-1

Contrary to the commenter's assertions, the 10-acre Dixie Lee Lane property is approximately 10 acres of actual pebble plain habitat. The Dixie Lee Lane property was originally surveyed by Hicks and Hartwick Engineering as a curvilinear 10-acre pebble plain, the exterior lines of the parcel conforming to the bench top opening of the pebble plain, including Pinyon Pines and Jeffrey Pines within the general distribution of the pebble plain habitat. Hence, the delineation of the 10-acre parcel generally conforms to the actual pebble plain configuration such that the proposed 10-acre parcel conforms very closely to the distribution of pebble plains species found on the ground. Additionally, the Dixie Lee Lane property has not been previously pledged as mitigation for another development project in the Big Bear area as mentioned by the commenter. First, the RRDEIR No. 2 did not identify potentially significant impact to pebble plain habitat. The Supplemental Focused Sensitive Plant Survey, conducted by Dr. Krantz, identified an area approximately 0.69-acre where pebble plain soil conditions occur. However, Dr. Krantz concluded that prior biological surveys had mischaracterized the 0.69-acre portion of the Project site as true pebble plain due to lack of two indicator plant species. Therefore, the Dixie Lee Lane parcel is not technically mitigation for any impacts to pebble plain habitat. However, even if the 0.69-acre area were determined to be true pebble plain habitat, the Dixie Lee Lane parcel would adequately mitigate for those impacts. The Dixie Lee Lane parcel, as well as other Conservation Areas identified and set aside as part of the Project development will be placed under a conservation easement that will be held by a legitimate Conservation Entity that will be supported by a non-wasting endowment that will support the continued maintenance and conservation of the Conservation Areas consistent with Mitigation Measure BR-1 (RRDEIR No. 2, page 2-57).

Refer to Appendix I of this 2020 Final EIR for the recent Technical Review of the Biological Database for the Moon Camp Project Site prepared by ELMT Consulting for additional analysis of known and potential special-status species. Specifically, page 4 includes a discussion of the Dixie Lee Land as mitigation.

Response to SIERRA CLUB1-2

The entire 10-acre Dixie Lee Lane parcel, as well as other Conservation Areas created as part of the Project development, will be encumbered by a formal conservation easement for the benefit of a Conservation Entity. A long-term non-wasting endowment providing funding for maintenance and preservation of the Conservation Areas will be established in favor of a designated 501(c)3 conservation organization dedicated to that purpose. Cost for maintenance and monitoring of the preserved areas are estimated to be modest—sufficient for initial fencing, signage with continuing endowment to fund fence repair, replacement signage and other activities over time necessary for the continued maintenance and conservation of the Conservation Areas. It is anticipated that the Conservation Entity will be a member-organization that will proactively organize and lead natural history walks and provide interpreted materials as a means of fund-raising and member recruitment.

Response to SIERRA CLUB1-3

CC&Rs for the Project have not yet been formed. It is anticipated that the CC&Rs will be drafted and recorded prior to the first property sale within the Project site. As required by Mitigation Measure BR-1 (RRDEIR No. 2, page 2-57), the CC&Rs will include language prohibiting residents and their

guests from accessing Conservation Areas or taking other action that would prohibit the perpetual preservation of Conservation Areas. Although CC&Rs generally can be amended by homeowners owning property subject thereto, because the provisions in the CC&Rs relating to preservation of the Conservation Areas and enforcement of violation of those provisions are explicitly included as mitigation measures in the EIR and project conditions of approval, those provisions must remain in perpetuity and the CC&Rs will provide for such.

Response to SIERRA CLUB1-4

The commenter expresses concern about homeowners destroying ashy-grey Indian paintbrush located within designated rear-lot setbacks and why Conservation Easements within these areas have not been considered. An updated analysis (May 23, 2018) of the ashy-grey Indian paintbrush habitat provides an analysis of the ashy-grey Indian paintbrush habitat (Appendix I of this 2020 Final EIR). The analysis indicates that occurrences of the federally endangered ashy-grey Indian paintbrush occurred on developable Lots 1, 47, 49, and 50. The analysis concluded that the occurrence of ashy-grey Indian paintbrush on the proposed developable lots were within the rear lot building setbacks, thereby increasing the chance that these species will be preserved. The commenter is correct that these areas are not within proposed Conservation Easement areas. The RRDEIR No. 2 did not assume that the plant species will be preserved due to their location within the identified building setbacks. The discussion of the occurrences within the setbacks was for informational purposes only. The 2018 analysis identified approximately 672 plant occurrences within the identified lots, which accounts for roughly 12 percent of the occurrences identified in the Project site. Even without preservation of the ashy-grey Indian paintbrush occurrences on Lots 1, 47, 49, and 50, the design of the Project and creation of Open Space Conservation Easements will preserve approximately 88 percent of the ashy-grey Indian paintbrush occurrences on-site, which results in mitigation at approximately a 7:1 ratio. Accordingly, the occurrences on Lots 1, 47, 49, and 50 do not need to be preserved in order for the Project to adequately mitigate impacts to the ashy-grey Indian paintbrush.

Refer to Appendix I of this 2020 Final EIR of the recent Technical Review of the Biological Database for the Moon Camp Project Site prepared by ELMT Consulting for additional analysis of known and potential special-status species. Pages 2 through 4 address the ashy-grey Indian paintbrush, and Table 1 shows the habitat numbers for ashy-grey Indian paintbrush.

Response to SIERRA CLUB1-5

The commenter is concerned that the proposed mitigation for impacts to the San Bernardino flying squirrel is inadequate and lacks enforcement mechanisms. The RRDEIR No. 2 included an analysis of the Project's potential impacts on the San Bernardino flying squirrel, a federally recognized species of concern and State-recognized species of special concern. A focused survey for San Bernardino flying squirrels was conducted on the Project site in 2007 and the results were negative. However, an individual of the species was trapped in 1998 by the USFS, approximately 0.5 mile north of the northern boundary of the Project site (RRDEIR No. 2, page 2-33). The analysis concluded that the Project site provided suitable foraging habitat for the species and the potential for occurrence is considered high despite the negative 2007 Focused Survey. Because marginal foraging habitat was found on-site, the following mitigation measures will be implemented in the lots with densely forested areas and snags. Based on the moderate potential for occurrence, the RRDEIR No. 2 proposed Mitigation Measure BR-3 (RRDEIR No. 2, page 2-58) has been edited to require the following:

BR-3 ~~The project proponent shall have a biologist qualified with San Bernardino flying squirrel (SBFS) as a monitor during tree removal. Minimize the number of trees, snags, and downed wood removed for project implementation. Compensating the removal of snags containing cavities; this would be achieved by constructing and erecting two nest boxes and one aggregate box per snag removed. Appendix A of this Revised and Recirculated Draft EIR No. 2 provides the specifications of the nest and aggregate boxes (Flying Squirrels 2007). These boxes should be located on the adjacent U.S. Forest Service (USFS) land (with their permission) and the locations marked with a global positioning system. The locations of the boxes shall be provided to the USFS so that their biologists could monitor the boxes for occupation by SBFS.~~

~~Provide new homeowners with a flyer that would provide information on the biology of SBFS and how they are susceptible to depredation by cats. The flyer would also outline steps that homeowners could take to reduce their urban edge effects.~~

Given the negative results of on-site surveys and the available technical and peer reviewed literature, negative effects to the San Bernardino flying squirrel are not expected. However, because marginal foraging habitat was found on-site, the following mitigation measures will be implemented in the lots with densely forested areas and snags. These mitigation measures are to be implemented to avoid and minimize impacts to San Bernardino flying squirrels:

- The Project Applicant shall have a qualified biologist as a monitor just prior to and during all tree removal on-site.
- Minimize the removal of large coarse woody debris (>10cm diameter), which provide microhabitat for the growth of hypogeous fungi.
- Limit removal of standing snags (>25cm dbh) and large trees (>25cm dbh), which provide both structural complexity and potential nesting habitat.
- Prioritize the retention of large trees and snags with visible potential cavity nesting structures, which are associated with higher densities of northern flying squirrels.
- Minimize the loss of continuous canopy closure, especially in the drainages, which provides protection from predators while foraging and may play an important role in maintaining habitat connectivity.
- The Project Applicant must compensate for the removal of suitable habitat through construction and erection of two nest boxes and one aggregate box per snag removed.
- The Project Applicant is required to provide homeowners with information on the biology of the San Bernardino flying squirrel and suggest steps that homeowners can take to reduce their urban-edge effects.
- All subsequent home developers must comply with these provisions which shall be enforced by the County of San Bernardino through implementation of the Mitigation Monitoring and Reporting Program as mandated by CEQA.

> If the monitoring biologist observes a San Bernardino flying squirrel during pre-construction and/or construction monitoring, the biologist will immediately halt work until the occupied tree can be vacated prior to felling the tree; however, if the work is during the nesting season (generally March through May), when baby squirrels could be present, the nest will not be vacated until after the nesting season ends (June 1st), as cleared by the monitoring biologist.

Please refer to Section 4: Errata of this FEIR, showing detailed revisions to mitigation measures.

Mitigation Measure BR-3 in the aggregate is adequate to mitigate impacts to the San Bernardino flying squirrel. The majority of impacts to the San Bernardino flying squirrel will occur through on-site development activities and a removal of suitable habitat. Mitigation Measure BR-3 outlines specific enforceable provisions to reduce impacts to development which, as stated above, include limitation on removing trees and snags, creation of replacement habitat and on-site monitoring to ensure no direct impacts to the San Bernardino flying squirrel occur during development activities. All subsequent home developers must comply with these provisions which shall be enforced by the County of San Bernardino through implementation of the Mitigation Monitoring and Reporting Program as mandated by CEQA. Impacts to the San Bernardino flying squirrel occurring after development of the Project are much less likely to occur. However, providing homeowners with information regarding ongoing impacts to the San Bernardino flying squirrel prepared by an expert in the field will provide an additional modicum of mitigation for potential impacts to the f San Bernardino lying squirrel.

Response to SIERRA CLUB1-6 and -7

The commenter expresses concern about the enforceability and feasibility of Mitigation Measures BR-4 and BR-5. Mitigation Measures BR-4 and BR-5 (RRDEIR No. 2, page 2-59) require identification of bald eagle perch trees, as well as other large trees on-site and provide mitigation for impacts to those trees. Mitigation Measure BR-4 requires that all eagle perch trees identified in the 2002 Bald Eagle Survey be preserved in place upon Project completion. If any of the designated perch trees should become hazardous and need to be taken down, they must be replaced (or enhanced) at a 5:1 ratio with artificial perch trees along the shoreline designated Open Space area. Additionally, development within the Project site must avoid trees larger than 24 inches dbh and if any non-perch trees larger than 24 inches dbh are removed, they must be replaced at a ratio of 2:1 with trees that are 24 inches dbh or larger. All large trees within 600 feet from the high water line shall be documented and tagged and such trees shall be avoided during development activities. These restrictions on development of individual lots will be included in the Mitigation Monitoring Reporting Program prepared and enforced by the County of San Bernardino through its Code Enforcement Division. Additionally, a copy of all Conditions of Approval and Mitigation Measures shall be provided to each homeowner upon purchase of an individual lot prior to its development. The restrictions on development will also be included in the Conditions, Covenants and Restrictions recorded against the property applicable to all development within the property and enforceable by the County of San Bernardino or each lot owner individually. CEQA requires that all Mitigation Measures must be fully enforceable through permit conditions, agreements, or other legally binding instruments (CEQA Guidelines Section 15126.4). Here, the Mitigation Measures identified include adequate enforcement mechanisms. The County h of San Bernardino as the authority to enforce

compliance with Mitigation Measures through a Mitigation Monitoring and Reporting Program adopted by the County of San Bernardino as a condition of Project approval. Failure to comply with the Mitigation Measures will result in enforcement actions brought by the County of San Bernardino and may possibly result in other penalties, such as withholding of Certificates of Occupancy or other County of San Bernardino approvals necessary for development of the Project until the Project is brought into compliance with the Mitigation Measures.

Response to SIERRA CLUB1-8
See Responses to SIERRA CLUB1-5 through -7.

Response to SIERRA CLUB1-9
See Responses to SIERRA CLUB1-5 through -7.

Response to SIERRA CLUB1-10
See Responses to SIERRA CLUB1-5 through -7.

Response to SIERRA CLUB1-11
The Homeowner Association will notify all purchasers of lots within the development regarding the Mitigation Measures for outdoor lighting. All new purchasers of existing homes will also be notified by the Homeowner Association regarding the Mitigation Measures for outdoor lighting.

Response to SIERRA CLUB1-12
One-hundred-foot setbacks along wild lands are utilized by this development. The Homeowner Association will notify all purchasers of lots within the development that they should not hike/walk onto the pebble plains on USFS lands adjacent to the development. The Homeowner Association will respond to any complaints of violations.

Response to SIERRA CLUB1-13
The ashy-grey Indian paintbrush is a perennial plant, and is readily visible during the flowering season where it occurs, even in years with substandard rainfall. Furthermore, as a hemi-parasite on its host plants, ashy-grey Indian paintbrush does not readily disburse, dropping its seeds in the immediate vicinity of the host plants themselves. Thus, the actual occupied habitat for ashy-grey Indian paintbrush does not generally change from year to year. The Supplement Focused Special Status Plant Survey conducted by Dr. Krantz in 2008 and 2010, revealed that there were no ashy-grey Indian paintbrush occurrences on the southeastern portions of the Project site, as indicated by White in 2007. Mr. White's survey was conducted in late July, during a drought year, when reliable plant identifications would be questionable for someone unfamiliar with the target species. Mr. White identified the existence of Wright's matting buckwheat in portions of the Project site and assumed that, because Wright's matting buckwheat is often a host species, ashy-grey Indian paintbrush would otherwise occur in this area during years of normal or above-average precipitation. However, as mentioned, ashy-grey Indian paintbrush does not spread to areas just because the host plant species is found there. Occurrences are very limited in scope from year to year, which supports the assumption regarding potential occurrences of ashy-grey Indian paintbrush on the southeastern portion of the Project site was incorrect.

Refer to Appendix I of this 2020 Final EIR for the recent Technical Review of the Biological Database for the Moon Camp Project Site prepared by ELMT Consulting or additional analysis of known and potential special-status species. Specifically, ashy-grey Indian paintbrush is addressed on pages 2 through 4 and in Table 1.

Response to SIERRA CLUB1-14

There are no trails from the Moon Camp property to the USFS pebble plain. The slope between the proposed lots and the USFS pebble plain are steep and brush-covered. These topographic barriers will discourage residents and their guests from climbing through the Project site to reach the pebble plain. Impacts to the USFS pebble plain today are from uncontrolled off-highway vehicle use by motorcycles and vehicles coming off Polique Canyon Road, and a designated USFS roadway, northeast of the pebble plain. It is much more likely that residents, should they desire to access the pebble plain habitat on the USFS property, would utilize these previously created accessways. Because of the location of these accessways, the County of San Bernardino does not have the legal capability to restrict such access. However, the County of San Bernardino will work with San Bernardino National Forest (SBNF) to find a reasonable solution to jointly controlling this potential problem should it arise. However, any impacts to the USFS pebble plain habitat resulting from residents on the Project site accessing USFS property are entirely speculative.

Response to SIERRA CLUB1-15

Please see Response to Sierra Club Comment No. 1. Contrary to the commenter's assertions, the 10-acre Dixie Lee Lane property is approximately 10 acres of actual pebble plain habitat. The Dixie Lee Lane property was originally surveyed by Hicks and Hartwick Engineering as a curb linear 10-acre pebble plain, the exterior lines of the parcel conforming to the bench top opening of the pebble plain, including Pinon Pines and Jeffrey Pines within the general distribution of the pebble plain habitat. Hence, the delineation of the 10-acre parcel generally conforms to the actual pebble plain configuration such that the proposed 10-acre parcel conforms very closely to the distribution of pebble plains species found on the ground. Additionally, the Dixie Lee Lane property has not been previously pledged as mitigation for another development project in the Big Bear area as mentioned by the commenter. First, the RRDEIR No. 2 did not identify potentially significant impact to pebble plain habitat. The Supplemental Focused Special Status Plant Survey, conducted by Dr. Krantz, identified an area approximately 0.69-acre area where pebble plain soil conditions occur. However, Dr. Krantz concluded that prior biological surveys had mischaracterized the 0.69-acre portion of the Project site as true pebble plain due to lack of two indicator plant species. Therefore, the Dixie Lee Lane parcel is not technically mitigation for any impacts to pebble plain habitat. However, even if the 0.69 acre area were determined to be true pebble plain habitat, the Dixie Lee Lane parcel would adequately mitigate for those impacts. The Dixie Lee Lane parcel, as well as other Conservation Areas identified and set aside as part of the Project development, will be placed under a conservation easement that will be held by a legitimate Conservation Entity that will be supported by a non-wasting endowment that will support the continued maintenance and conservation of the Conservation Areas consistent with Mitigation Measure BR-1 (RRDEIR No. 2, page 2-57 and 2-58).

Response to SIERRA CLUB1-16

The commenter expresses concern regarding wildfire hazards. As outlined within Section 4.7, Public Services, of the RRDEIR No. 1 (page 4.7-1), wildfire is the primary safety issue in mountainous areas.

Fire conditions in the San Bernardino National Forest are more dangerous than ever, according to the USDA (2006). The Butler II fire (September 2007) required the evacuation of the Fawnskin community for a short period. Many decades of fire suppression policy, which led to growth of the understory and bark beetle infestation, are partially to blame for this unprecedented fire hazard. Implementation of the San Bernardino National Forest Plan (2006) for mechanical thinning of under-story trees and provision of fire-flow would reduce fire danger in the Project area.

The Project site is located adjacent to the National Forest Service on the north and east. The Project is located within a FS1 designated area, and, therefore, the Project is required to comply with the FS1 100-foot fuel modification zone, which is required for any development project that abuts USDA land. Ten of the residential lots are affected by this requirement and must abide by the Fuel Modification Plan required to be prepared for the Project. The current version of the revised Tract Map accurately designates the Fuel Modification Zone.

The Project site is in a high fire hazard area and included in the County's Fire Hazard Overlay District (FS1). The FS1 Area "includes areas within the mountains and valley foothills. It includes all the land generally within the San Bernardino National Forest boundary and is characterized by areas with moderate and steep terrain and moderate to heavy fuel loading contributing to high fire hazard conditions."

Since the Project is located within a FS1 designated area, it is subject to compliance with various requirements relative to construction, building separations, project design, and erosion and sediment control. The requirements applicable to each fire safety area are found in the County of San Bernardino's Development Code in Section 82.13.050 (General Development Standards), Section 82.13.060 (FS1, FS2, and FS3 Development Standards), and 82.13.070 (FS1 Additional Development Standards). The provisions for the FS1 District include, but are not limited to, fuel modification zones, setbacks, emergency access, water supply (for fire flows), and apply to all phases of project development. For a complete list of applicable codes, see Appendix F, County of San Bernardino Development Code, Fire Safety Overlay District.

In addition, because the proposed residential lots would be sold as custom lots and would be developed as they are sold, fuel modification on individual lots may be required if a lot being developed is adjacent to other lots that have not been sold or remain undeveloped. Under this condition, Development Code Section 82.13.060(6) (B) would apply. This provision states in part that "when a development project is phased, individual phases may be required to provide temporary fuel modification areas, where the development perimeter of a phase is contiguous to a subsequent phase of a project, which in its undeveloped state is a hazardous fire area . . ."

The fuel modification zone adjacent to the USDA boundary and areas within the site that would be required to maintain temporary fuel modification areas will be maintained by the prospective homeowners of these specific lots. Each homeowner will be required to pay property taxes and development impact fees based on then-current rates. The Project's increase in demand for fire protection services would be offset through project-related fees and taxes.

Regular thinning of these buffer zones would lessen the fire hazard. A potential loss of habitat could result from the removal of trees required for fire control. However, the County of San Bernardino requires under Chapter 88.01, Plant Protection and Management, of the Development Code that development on all private and public lands within the unincorporated areas of the County of San Bernardino is subject to specific requirements. Removal of any native plant from unincorporated areas of San Bernardino requires the approval of a removal permit. The Proposed Alternative Project would comply with this Plant Protection and Management Ordinance and the design standards specific for high fire areas.

This comment will be taken into consideration by County of San Bernardino decision-makers. No specific deficiencies in the environmental analysis are identified in the comment, and no further response is required (see CEQA Guidelines Section 15088).

Slowik, Matt - LUS

From: ednjeanne [ednjeanne@charter.net]
Sent: Tuesday, January 10, 2012 4:19 PM
To: Slowik, Matt - LUS
Cc: Watson, George; Supervisor Derry
Subject: Review Extension For Moon Camp DEIR
Attachments: mc deir fof extension request0112.doc

Dear Mr. Slowik

Please find attached the Big Bear Group of the Sierra Clubs request for and extension of the Mooon Camp DEIR, Ed Wallace 1

January 10, 2011

County of San Bernardino Land Use Services Dept.; Advance Planning Div. 385 N. Arrowhead Ave., First Floor San Bernardino, CA 92415-0182 Attn: Matthew Slowik

Re: PUBLIC COMMENT PERIOD EXTENSION REQUEST—Revised and Recirculated DEIR No. 2 for the Moon Camp Development Project/RCK Properties Inc (SCH #2002021105)

Dear Mr. Slowik,

The Big Bear Group of the Sierra Club representing over 150 members in the Big Bear Valley would like to request a two week extension to the review period for the above DEIR which ends on January 23, 2012. This review period included the holiday period from prior to Christmas to after New Years. Many of the key members of our board were unavailable during this time to help conduct a thorough review. Please give this your upmost consideration. Sincerely, 1 CONT.

R. E. Wallace, Conservation Chair Big Bear Group Sierra Club

cc: Supervisor Neil Derry
George Watson, Chief of Staff for Supervisor Derry

Sierra Club (Big Bear Group, January 10, 2012) (SIERRA CLUB2)

Response to SIERRA CLUB2-1

The commenter requests the County of San Bernardino to extend the close of the public review period for adequate review. The County of San Bernardino extended the public review period so that it covered the period December 12, 2011, to February 7, 2012, for the RRDEIR No. 2. No additional response is necessary.

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SIERRA CLUB3
Page 1 of 7

Revised Draft Moon Camp DEIR

ednjeanne [ednjeanne@charter.net]

Sent: Sunday, January 22, 2012 2:37 PM
To: Slowik, Matt - LUS
Cc: Supervisor Derry
Attachments: Revised EIR Comments.doc (187 KB)

Dear Mr. Slowik

Attached are our comments on the Revised Draft of the Moon Camp DEIR.We commented on the first issue of the above report in June of 2010. The comments and questions that we made at that time still stand and need to be addressed in the final EIR. Also, this Revised Draft was issued for review prior to the Christmas and New Year's holidays which made it hard if not impossible to get a complete review done by the appropriate members and experts within our group. It took almost 18 months to produce the Revised Draft.We asked for an short extension but did not even get the courtesy of a response. These are serious issues to the environmental community that take time for a well thought out review and response and should be treated as such by the county. 1

Ed Wallace

Conservation Chair

Big Bear Group

Sierra Club

SIERRA CLUB3
Page 2 of 7

Extension requested in comment deadline for Mooncamp EIR

Adam Keats [akeats@biologicaldiversity.org]

Sent: Wednesday, January 18, 2012 1:41 PM

To: Slowik, Matt - LUS; Watson, George; Supervisor Derry; Kelly, Christine - LUS

Dear Matthew Slowik, George Watson, Christine Kelly, and Supervisor Derry:

The Center for Biological Diversity hereby requests a 14-day extension to the deadline for comments on the Mooncamp DEIR (TM#16136 / SCH#2002021105). The comment period straddled the holiday season, leaving less time than normal for members of the public to review and comment on the DEIR. Two weeks would not unreasonably delay official review of the DEIR and would give the public a legitimate opportunity to be involved in the review process. 1 CONT.

Thank you,

Adam Keats

Adam Keats
Senior Counsel ◦ Urban Wildlands Program Director
CENTER *for* BIOLOGICAL DIVERSITY
351 California St., Suite 600
San Francisco, CA 94104
phone 415-436-9682 x304 ◦ *fax* 415-436-9683
akeats@biologicaldiversity.org

SIERRA CLUB
FOUNDED 1892

Big Bear Group

San Gorgonio Chapter

PO Box 3048 Big Bear Lake CA. 92315

www.sierraclubbigbeargroup.org

The County of San Bernardino January 22, 2012
Land Use Services Department, Advanced Planning Division
385 N. Arrowhead Ave, First Floor
San Bernardino, CA 92415-0182

Attn: Matthew W. Slowik Senior Planner

RE: Revised and Recirculated Draft Environmental Impact Report for the Moon Camp Development Project/RCK Properties Inc. (SCH#2002021105)

The Big Bear Group of the Sierra Club representing over180 local members in the Big Bear Valley would like to thank you for the opportunity to comment on the above referenced Environmental Impact Report. Our comments are as follow: 1 CONT.

Biological Resources

- **MM BR- 1a**
  The 10 – acres comprising the Dixie Lee property is not all pebble plain. Isn't using the entire acreage as mitigation for loss of pebble plain disingenuous? We also reiterate our comments to the initial EIR. 2

It is our understanding that this pebble plain was totally set aside as mitigation for the pebble plain lost as a result of the construction of Big Bear High School, its parking lots and outdoor athletic facilities and thus cannot be used for further mitigation. The 2 acres suggested by Tim Krantz does not seem reasonable considering the size of the High School complex. Do you have documentation to support the claim made by Tim Krantz? If a portion of the Dixie Lee Pebble Plain can be used for mitigation what will be the size endowment and what will be the projected costs per year to manage and maintain the property? Have you developed a list of organizations that are interested in taking on the management functions? Have they actually been contacted? Do they agree that the proposed endowment is adequate? If this has not been done aren't your proposed mitigation and management just words on paper with no real substance? 2 CONT.

- **MM Br -1b**
  Has a list of qualified conservation entities been identified that are interested in managing the conservation easements? Do they agree the amount of the proposed endowment (whatever that is) is sufficient? The reason for this question is that putting this down in paper is easy finding qualified organizations that will actually take on this responsibility could prove to be difficult. Do you understand that until this is done it cannot be considered a valid mitigation? 3
- **MM BR-1c**
  What is the exact language in the CC&Rs for the project that penalizes future residents that violate the Conservation Areas? Can these CC&Rs be changed by a future home owners association? Does the County understand their enforcement responsibility for protection and landscaping reviews? Are you asking the county to take on responsibility that is not funded? 4
  Does the drainage on the individual lots flow onto the Conservation Areas?
  Being that the development allows grass lawns, what is affect on the plants in the Conservation Areas due to lawn fertilization?

- **MM BR-1d**

  What prevents the owner of the property from destroying the Ashy-Gray Paintbrush after they have occupied their homes? Has making the back of these lots a fenced conservation easement been considered? If not, why not? 5

- **MM BR-3**

  New home owners will be provided with a flyer that would provide information on the biology of the San Bernardino Flying Squirrel. This flyer would provide homeowners on information on how to reduce their urban edge effects. Who is responsible for producing this flyer? Is there any enforcement mechanism for those that ignore the information and recommendations? How will this information be passed along to homeowners in the future? 6

- **MM BR-4**

  Our experience is that contractors pay little attention to maintaining a safe distance from trees during construction and most are killed during the construction process. Inspection efforts by building departments are at best ineffective. How do you propose to change this on this project? Replacing a dead perch tree with any number of young trees will only mitigate the loss in about 200 years which is not mitigation as required under CEQA. Do you agree with this statement and if not why? MM BR-4 also suggests that artificial perch trees will be used to replace any existing trees that need to be taken down. Our observation is that the artificial trees have a short life span due to rotting and wind and will need to be replaced on a regular basis. If this is an acceptable mitigation measure who is responsible for maintaining and replacing these trees? How will this be funded in perpetuity? What is the projected cost on a yearly basis? 7

- **MM BR- 5**

  As stated above, our experience is that contractors pay little attention to maintaining a safe distance from trees during construction and most are killed during the construction process. Inspection efforts by building departments are at best ineffective. How do you propose to change this on this project? Who is responsible for explaining the 8

restrictions on individual lots to developers and homeowners? How do you propose enforce these restrictions? How will these restrictions be passed on to future homeowners' overtime? Do you believe that this can be affective in perpetuity? Please explain why? 8 CONT.

- **MM BR-6**
  Who has determined that a 300 feet clearing limit from a nesting site is sufficient? What is their expertise? 9

- **MM BR-7**
  Explain how an active nesting site will be protected during construction activities. Do you have documentation that shows these measures to be effective? Is it the same for all species of birds? 10

- **MM BR-8**
  The USFS closes down trailheads and picnic areas on November 1 in deference to bald eagles. Why does this development choose to use December 1? 11

- **MM BR -10**
  Who is responsible to explain the restriction on outdoor lighting to potential developers and homeowners? How will these restrictions be passed on to future homeowners' overtime? Do you believe that this can be affective in perpetuity? Please explain why? 12

- **MM BR- 11**
  Because of fire we read California building codes require 100 ft set back from wild lands. What set backs are being used in this development? Who is responsible for assuring that homeowners staying out of the pebble plains on the National Forest? How will this be enforced? What is the penalty for non- compliance? 13

- **A. 11 Revised Supplemental Focused Special Plant Species Survey III. PG- 4 & 1V. PG- 5**

  This section tries to reconcile the difference between White and Krantz regarding the presence of ashy-gray paint brush located in the southeast portion of the property. We believe that White, a competent biologist saw what he saw as did Krantz. Could it be that these plants 14

do not appear unless conditions in the area are conducive? Krantz indicates that he observed these areas in years with above average precipitation. Does the timing of this precipitation have anything to do with the appearance of these plants? Are there other factors that could explain the discrepancies? Has Krantz or anyone else contact White to get his read on these discrepancies? If no. why not? 14 CONT.

- **A. 11 Revised Supplemental Focused Special Plant Species Survey V PG 8**

The argument here seems to be that resident can't hike up 200' to impact these pebble plains on USFS property. Has Dr. Krantz had a look at all the illegal trails all over the north facing slope above Big Bear Lake? What cause these trails people are in close proximity to the forest. Won't homes in this project cause the same problem? What would he suggest as a real solution to this problem? 15

- **A. 11 Revised Supplemental Focused Special Plant Species Survey V1 PG8**

The purchase of the Dixie Lee Lane pebble plain has been suggested as mitigation for the loss of pebble habitat.
It is also our understanding that this pebble plain was previously totally set aside as mitigation for the construction of Big Bear High School, its parking lots and outdoor athletic facilities and thus cannot be used for further mitigation. Also, the 2 acres suggested by Tim Krantz does not seem reasonable considering the size of the High School complex. Does documentation exist to support the claim made by Tim Krantz? Certainly records of any mitigation discussion must have been kept during the approval process. Do they exist at the school district offices or the county? Was this looked into by those being paid to put together this DEIR and the attached appendixes? If not, why? 16

Respectively submitted

Ed Wallace
Conservation Chair, Big Bear Group, Sierra Club

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Sierra Club (SIERRA CLUB3)

Response to SIERRA CLUB3-1 through -16

The commenter provides identical comments contained within the Sierra Club by Ed Wallace (SIERRA CLUB1) comment letter. See Responses to the SIERRA CLUB1 letter for responses to comments. No additional response is necessary.

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Slowik, Matt - LUS

From: Claudia [claudiaeads368@aol.com]
Sent: Sunday, February 05, 2012 3:39 PM
To: Slowik, Matt - LUS
Subject: Mooncamp DEIR
Attachments: Mooncamp DEIR.doc

Dear Mr. Slowik:
Please find attached my letter of concerns for the Mooncamp development DEIR in Fawnskin. Thank you. 1

A. Claudia Eads, MD
P O Box 368
Fawnskin CA 92333

P O Box 368
Fawnskin CA 92333
February 5, 2012

Matthew Slowik
San Bernardino County Planning
Re: Mooncamp Project DEIR, Fawnskin CA

Dear Mr. Slowik:

I am writing to express my reservations about the recent DEIR on the proposed Mooncamp Project. To start with, changing the zoning from 1 house per 40 acres to 1 house per 20,000 sq feet would be very detrimental to the public interest because of limited water availability, biological resources (bald eagle habitat, endangered plant species, sensitive plant habitat), heavy traffic, and much more. So I hope you will vote against approval of this change. 1 CONT

In addition, I have many concerns about the project itself. Here are a few of them: The impacts of the marina on biological resources, especially the bald eagle, has not been properly analyzed, and the impacts have been understated. One of the new roads proposed for the project is designed to run right through the middle of the proposed conservation area for sensitive plants, and the impacts of that have not even been discussed, let alone analyzed and mitigated. (The sewer line is also planned to be dug right through the middle of this proposed conservation area.) No analysis is presented on the potential impacts of the changes in water piping locations to traffic, noise, air quality, water availability, etc. for the surrounding neighbors. 2

Thank you for your consideration in this matter.

Very truly yours,
A. Claudia Eads, MD

3.2.9 - Individuals

Donald and Claudia Eads (February 5, 2012) (EADS)

Response to EADS-1
The commenters' remark about changing the zoning from 1 house per 40 acres to 1 house per 20,000 square feet. The Project is included in the County of San Bernardino "Holding Zone" zoning that allows additional density if the appropriate services can be identified as being available to the Project. The DEIR has shown that those services are available, and, therefore, the additional density can be granted.

Response to EADS-2
General Comment about impacts to Rare Plants.

The Project has been designed to conserve nearly 90 percent of Threatened ashy-grey Indian paintbrush habitat and most of the "pebble plain" habitat on-site. The impact of the roads and sewer lines on the plant species has been identified, analyzed and mitigated.

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Slowik, Matt - LUS

From: Donald Eads [donaldeadsmd@gmail.com]
Sent: Sunday, February 05, 2012 4:04 PM
To: Slowik, Matt - LUS
Cc: Don Eads
Subject: Mooncamp Project DEIR, Fawnskin, CA
Attachments: Mooncamp DEIR.doc

EADS1

P O Box 368

Fawnskin CA 92333

February 5, 2012

Matthew Slowik

San Bernardino County Planning

Re: Mooncamp Project DEIR, Fawnskin CA

Dear Mr. Slowik:

I am writing to express my reservations about the recent DEIR on the proposed Mooncamp Project. To start with, changing the zoning from 1 house per 40 acres to 1 house per 20,000 sq feet would be very detrimental to the public interest because of limited water availability, biological resources (bald eagle habitat, endangered plant species, sensitive plant habitat), heavy traffic, and much more. So I hope you will vote against approval of this change. 1

In addition, I have many concerns about the project itself. Here are a few of them: The impacts of the marina on biological resources, especially the bald eagle, has not been properly analyzed, and the impacts have been understated. One of the new roads proposed for the project is designed to run right through the middle of the proposed conservation area for sensitive plants, and the impacts of that have not even been discussed, let alone analyzed and mitigated. (The sewer line is also planned to be dug right through the middle of this proposed conservation area.) No analysis is presented on the potential impacts of the changes in water piping locations to traffic, noise, air quality, water availability, etc. for the surrounding neighbors. 2

Thank you for your consideration in this matter.

Very truly yours,

Donald L. Eads, MD

Donald and Claudia Eads February 5, 2012 (EADS1)

Response to EADS1-1 and -2

The commenter provides identical comments contained within the Donald and Claudia Eads (EADS) comment letter. See Response to EADS-1 and -2, above, for responses to comments. No additional response is necessary.

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P O Box 368
Fawnskin CA 92333
February 5, 2012

Matthew Slowik
San Bernardino County Planning
Re: Mooncamp Project DEIR, Fawnskin CA

Dear Mr. Slowik:

I am writing to express my reservations about the recent DEIR on the proposed Mooncamp Project. To start with, changing the zoning from 1 house per 40 acres to 1 house per 20,000 sq feet would be very detrimental to the public interest because of limited water availability, biological resources (bald eagle habitat, endangered plant species, sensitive plant habitat), heavy traffic, and much more. So I hope you will vote against approval of this change. 1

In addition, I have many concerns about the project itself. Here are a few of them: The impacts of the marina on biological resources, especially the bald eagle, has not been properly analyzed, and the impacts have been understated. One of the new roads proposed for the project is designed to run right through the middle of the proposed conservation area for sensitive plants, and the impacts of that have not even been discussed, let alone analyzed and mitigated. (The sewer line is also planned to be dug right through the middle of this proposed conservation area.) No analysis is presented on the potential impacts of the changes in water piping locations to traffic, noise, air quality, water availability, etc. for the surrounding neighbors. 2

Thank you for your consideration in this matter.

Very truly yours,
Donald L. Eads, MD

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Donald and Claudia Eads (EADS2)

Response to EADS 2-1

The commenter provides identical comments contained within the Donald and Claudia Eads (EADS) comment letter. See Response to EADS-1 and 2, above, for responses to comments. No additional response is necessary.

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Slowik, Matt - LUS

From: Drew Feldmann [drewf3@verizon.net]
Sent: Monday, January 23, 2012 4:37 PM
To: Slowik, Matt - LUS
Subject: Re: Mooncamp: Extension of Time for Notice of Availability of the Revised & Recirculated DEIR No. 2

Mr. Slowik,

Thank you. We greatly appreciate it.

Drew Feldmann
SBVAS Conservation Chair

On 01/23/12, Slowik, Matt - LUS<Matt.Slowik@lus.sbcounty.gov> wrote:

1

To all: Please be aware that the Extension of Time for the Notice of Availability of the Revised and Re-circulated DEIR No. 2 for the Moon Camp Project has been granted. Please see the attached Notice of Extension of Time. NOTE: The comment period will now close at **5:00 p.m. on Tuesday, February 7, 2012.** If you have any questions, please let me know. Thank you.

Matthew Slowik, MURP, MPA

Senior Planner

LUSD

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Drew Feldmann (FELDMANN)

Response to FELDMANN-1

The commenter acknowledges the County of San Bernardino's extension of the close of the RRDEIR No. 2 public review. The County of San Bernardino extended the public review so that it covered the period of December 12, 2011, to February 7, 2012. No additional response is necessary.

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Slowik, Matt - LUS

From: Elaine Lasnik-Broida [lasnikbroida@gmail.com]
Sent: Monday, February 06, 2012 9:14 AM
To: Slowik, Matt - LUS
Subject: Draft EIR for the Proposed Moon Camp Project

Dear Matthew-
I am writing to you as a concerned citizen who wants to ensure that the Fawnskin environment continues to thrive and not be compromised by profit-oriented developers. This new project design has minimal changes that, according to the DEIR, are meant to reduce impacts to endangered plant species. The new proposal still includes 50 homes (with 3 lots moved from one endangered plant habitat area to a different one), plus a 55-slip marina with parking. Based on an analysis of the document and proposal, the impacts still have been severely understated and have not been reduced to below significance. This draft EIR includes new sections for the Executive Summary, the Project Description and the Biological Resources sections, plus a new water feasibility study that changes the piping locations through Fawnskin streets for connection to the Fawnskin water system. 1

Most importantly, for this proposed project to be approved, it must have a zoning change (from 1 house per 40 acres to 1 house per 20,000 square feet). To do that, the County must determine that the change would be beneficial to the public interest. From every aspect of this project, it would only be detrimental to the public interest. There is no public benefit to additional homes here that could possibly override the extremely detrimental impacts to water availability, biological resources (bald eagle, federally-listed plant species, sensitive plant habitat, many other species, adjacent National Forest), traffic, aesthetics, and much more. 2

I appreciate your serious consideration of these issues.
Elaine Lasnik-Broida

--

Elaine Lasnik-Broida
President
Lasnik-Broida Consultants, Inc.
9454 Wilshire Blvd., Suite 550
Beverly Hills, CA 90212

Tel: 310-247-4945
Fax:310-247-4939
Email: lasnikbroida@gmail.com

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Elain Lasnik-Broida (LASNIK-BROIDA)

Response to LASNIK-BROIDA-1
The commenter describes changes to the project and states that she believes the impacts of the re-designed project are still understated. She does not refer to specific impacts of concern.

Response to LASNIK-BROIDA-2
The commenter discusses that the County of San Bernardino must make a finding of benefit to the public interest in order to approve the zone change. The commenter states that she believes the project would not be beneficial to the public interest. The commenter lists water availability, biological resources, traffic, aesthetics and "much more" as being her concerns. The 2020 Final EIR addresses all these areas and determines that only impacts to the bald eagle cannot be mitigated to a level of non-significance.

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Slowik, Matt - LUS

From: graskin@earthlink.net
Sent: Monday, February 06, 2012 6:11 PM
To: Slowik, Matt - LUS
Subject: Proposed Moon Camp project

Mr. Slowik,

My wife and I own a house in Fawnskin California and we are very concerned with the proposed Moon camp project. We would like to state our objections to the project and our concern about the adverse impact it would have on the eagle habitat, plant life, and quality and availability of ground water. In addition, we are concerned about the proposed zoning change and how that will impact our quality of life, both during and after construction. We chose to purchase property in Fawnskin with an eye towards the current restrictions that are in place; it is unfair to find out that a higher population density can be achieved through a zoning waiver for such a substantial project. Rather than raise property values in our neighborhood, we believe that this project will actually decrease the value of our property. 1

Sincerely,

Gary Raskin
Mary Devlin

1284 Ridge Road
Fawnskin, Ca 92333
818.415.5359

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Gary Raskin and Mary Devlin (RASKIN)

Response to RASKIN-1

The commenters state that they believe there are adverse impacts to eagle habitat, plant life, and water quality. In addition they believe the quality of life will be impacted and that the project will decrease property values in their neighborhood. The 2020 Final EIR has analyzed the impacts to eagle habitat and determined that they cannot be mitigated to a level of non-significance. The analysis determined that plant life and water quality impacts can be mitigated to a level of non-significance.

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Slowik, Matt - LUS

From: Glenda Webster [mgwent@charter.net]
Sent: Monday, February 06, 2012 8:46 AM
To: Slowik, Matt - LUS
Subject: Fawnskin Project

Dear Mr. Matthew Slowik;
I am writing as a homeowner in the Fawnskin Area (Big Bear) of your district. My house is close by the project that is currently under discussion for a zoning change from 1 home to 40 acres to 1 per 20,000 sq. ft. This is a terrible idea. This is an area that should never have this many houses. There are bald eagles that frequent this area as well as other wildlife that would be severely impacted if this type of project were to go forward. While I would like to see it remain empty I realize this is the homeowners right to develop the land however the project they are proposing is far to grandiose for this area. 1

Thank you,
Glenda & Mike Webster

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Glenda Webster (WEBSTER)

Response to WEBSTER-1

The commenters state that the Project will have too many homes for this area and that bald eagles and other wildlife that frequent the area will be impacted. The 2020 Final EIR analyzed these issues and determined that the impacts to bald eagles cannot be mitigated to a level of non-significance, but that the impacts to other wildlife can be mitigated to a level of non-significance.

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James C. And Lola E. Mc Grew
39760 Flicker Road
P. O. Box 493
Fawnskin, CA 92333

February 2, 2012

County of San Bernardino
Land Use Servicies Department
385 North Arrowhead Avenue 1st Floor
San Bernardino, California 92415-0182

Attn: Mathew Slowik

RE: REVISED AND RECIRCULATED DRAFT ENVIORONMENTAL IMPACT REPORT NO. 2 FOR THE CAMP 50-LOT RESIDENTIAL SUB DIVISION, TT NO. 16136 (BASED ON REVISED SITE PLAN) BIG BEAR LAKE, SAN BERNARDINO COUNTY, CALIFORNIA SCH #2002021105

Dear Sir,

We have a few comments on the DEIR # 2 on the Moon Camp property. It seems that although there is significant impacts on the bald eagle the report seems to brush them aside. They state they will place artificial perch trees if the existing trees need to be removed or fall down. As stated this area is the most used perch area in the valley and with this development it may deplete the population drastically. There is no mention of the Marina Point development in the DEIR # 2. This project seems to be to be going forward and with the impacts it will have on the bald eagle there will a major impact on the eagles. Artificial perch trees have been used in other parts of the valley and have not been used by the eagles. 1

The big concern we have is that all remed ion of other impacts is addressed with the CC&Rs or letters to the home owner CC&Rs are only as strong as the home owners association. If the home owners association is weak there will be no enforcement. The letters to the home owners may never be read. MMBR-1C on page 97of the DEIR # 2 states the Home Owners Association or San Bernardino County will enforce keeping people out of the conservation areas within Lot A and Lot H. I questioned the former third district San Bernardino County Supervisor about CC&Rs and was told San Bernardino County does not enforce them. They are only enforced by the home owners association. 2

There is no benefit to the people of the Big Bear Valley with this project. It will only add to traffic congestion and further strain on the infrastructure the Sheriffs Department and the Fire Department which is now manned by two Fireman. Please do not allow this zone change. 3

Sincerely,

James C. McGrew

Lola E. McGrew

James and Lola McGrew (MCGREW)

Response to MCGREW-1
The commenters state that it seems that significant impacts to the bald eagle are brushed aside by the report and that the development may deplete the perch trees and the population. The 2020 Final EIR has determined that the impacts to the eagle cannot be mitigated to a level of non-significance, even with the mitigation measures included with the project; see Response to CBD2-16.

The commenters mention that RRDEIR No. 2 does not mention Marina Point and that it will also have impacts on the eagle. This FEIR document has added Marina Point to the Cumulative Impacts List.

The commenters have stated that artificial perch trees are not used by the eagles. The 2020 Final EIR has found that artificial perch trees have been utilized by the eagles.

Response to MCGREW-2
The commenters state that their big concern is that the remediation of the impacts is addressed by the CC&Rs and are only as strong as the Homeowner Association and that Mitigation Measure BR-1C states that the Homeowner Association will enforce keeping people out of the Conservation Areas. The commenters questioned the former Supervisor and was told that the County of San Bernardino does not enforce CC&Rs. The commenters are concerned that the CC&Rs are only as strong as the Homeowner Association.

Response to MCGREW-3
The commenters' opinion is that the Project will not benefit the people of Big Bear Valley and will only add to traffic congestion and strain the infrastructure, Sheriff, and Fire Departments. The 2020 Final EIR has determined that other than impacts to the bald eagle, the impacts of the development can be mitigated to a level of non-significance.

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Slowik, Matt - LUS

From: J and B Francuz [jfrancuz@msn.com]
Sent: Tuesday, February 07, 2012 12:31 PM
To: Slowik, Matt - LUS
Subject: DEIR Proposed Moon Camp Project

Dear Mr. Slowik,

The Moon Camp development is a bad idea from the very beginning. The developer knew that the zoning for the property was RL-40 when he purchased it. There are so many houses and properties for sale already, there is no need for more homes to be built in the Big Bear area, let alone on the north shore of Big Bear Lake. There is a real need for open space for wildlife corridors to relieve the over development in many areas around Big Bear Lake. With the glut of houses on the market and the decline in values, there is no public benefit from this development being built. 1

There are numerous wildlife trails on the Moon Camp site. More extensive and specific wildlife evaluations need to be done; how else can the loss of this habitat be known. The DEIR doesn't provide mitigation for the loss or destruction of the habitats for each of the affected species. The DEIR should disclose these impacts to allow for the correct decision to be made. An example would be the adjacent proposed Marina Point development which is projected to build 30 condos and a 100 boat marina within a stone's throw of Moon Camp and its own 50 boat marina. Yet, there is no mention of this in the DEIR. 2

The proposed Moon Camp marina would destroy wetlands that exist on the property. I have personally witnessed when open ground is disturbed, that invasive plants such as Cheat Grass take over and that is a serious problem in the area already. Abatement with the use of woodchips is not even considered, nor does the DEIR take into account the impacts on individual species that would result from the disturbing of the soil and the introduction of non-native invasive plants. 3

Another issue with the proposed marina is that there really isn't a good place to put it on this stretch of narrow curving road. This road is a vital artery for the Big Bear Valley; to have boats and trailers coming and going on these curves could negatively impact the movement of goods and services as well as the potential for accidents on this curving highway. Semi-trucks, emergency vehicles, cars and bicycles all use this narrow road. Looking at this on a map gives the illusion of more space but in reality this is a very tight area. In case of emergency, an accident here could impact the safety of people trying to evacuate the valley. 4

Impacts on species, such as the Bald Eagle, manifest in the decline in their numbers. The construction of Eagle Point Estates and Castle Glen developments, as well as the mishandling of the property known as Marina Point, has had a negative impact on the eagles numbers. The building-out of Moon Camp has the potential of wiping the Bald Eagle totally out of Big Bear Lake and the Valley. Impacts on other species such as the 5

spotted owl, flying squirrel, rubber boa and many other sensitive plants have not been addressed. 5 CONT

One of the roads proposed for Moon Camp will run right through a conservation area for sensitive plants; this has not been discussed or analyzed. The map also shows a sewer line and the impacts of this are not being discussed either. There is also no mention of potential impacts on surrounding neighbors from the water pipe installation as far as noise, water availability and air quality for example. 6

Because of these issues we are asking that the zoning of Moon Camp remain RL-40. This property should be considered as mitigation for the other two developments this developer has built in the past. 7

Sincerely,

Joseph L. Francuz
Barbara Francuz
39787 Flicker Road
P. O. Box 514
Fawnskin, CA 92333

Because of these issues I am asking that the zoning of Moon Camp remain RL-40. This property should be considered as mitigation for the other two developments this developer has built in the past.

Joseph and Barbara Francuz (FRANCUZ)

Response to FRANCUZ-1
The commenters remark on their opinion that there is no need for additional homes, but a need for open space. "With the glut of houses on the market and the decline in values, there is no public benefit from this development being built."

Response to FRANCUZ-2
The commenters mention that Marina Point was not included in the DEIR. Marina Point has been added to the Cumulative Projects List. The commenters discuss the loss of habitat as not being adequately addressed, and that the DEIR does not provide mitigation for loss of habitat for each of the affected species. The 2020 Final EIR does address the habitat on the site.

Response to FRANCUZ-3
The commenters state that the marina will destroy wetlands. Contrary to the commenter's assertions, the Project will not impact any identified wetlands on the part of the Project site located south of SR-38. The supplemental focus rare plant survey prepared by Dr. Krantz (June 2008), (included as Appendix A.11 to the RRDEIR No. 2) confirmed, through Project site visits, that the area located south of SR-38 does not contain any wetlands. The shoreline habitat consists of ruderal shoreline plant species that does not support any sensitive plan or wildlife species.

Response to FRANCUZ-4
The commenters state that the location of the marina is a concern on the curving road. The 2020 Final EIR has concluded that the driveway to the marina meets Caltrans standards.

Response to FRANCUZ-5
The commenters state that previous developments have had a negative impact on the bald eagle and development could potentially wipe the bald eagle totally out of Big Bear Valley. The 2020 Final EIR has found that bald eagles are now hatching eagles in Grout Bay and that those new eagles are growing up healthy. The commenters stated that impacts on other wildlife have not been addressed. The 2020 Final EIR has addressed impacts on all wildlife that exist on the Project site.

Response to FRANCUZ-6
The commenters state that one of the roads and sewer lines goes through a Conservation Area that has not been analyzed. The 2020 Final EIR has analyzed the sensitive plants that occur in the proposed roadway/sewer area. The commenters state that the impacts of installing water lines on neighbors has not been analyzed. The 2020 Final EIR has analyzed those impacts and includes mitigation measures.

Response to FRANCUZ-7
The commenters ask that the zoning remain RL-40.

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Slowik, Matt - LUS

From: lwhitney@verizon.net
Sent: Tuesday, February 07, 2012 4:40 PM
To: Slowik, Matt - LUS
Subject: Comment on Moon Camp DEIR
Attachments: Fawnskin water.doc

Mathew Stowik,

Attached is my comment on the DEIR.

Lee Whitney

1

Comment on Moon Camp DEIR

Having owned homes in Big Bear for over 30 years, I think that water will become a severe problem for the Big Bear Valley. We have had water rationing almost every year and paying land owners to remove lawns. Climate change may cause wider swings in rain fall totals. We could have more droughts with the same average rainfall.

We may experience increased use of Big Bear Lake area for primary homes. I don't know, but water use could double with no new construction as baby boomers retire in Big Bear. Twenty years ago there was a limit of 250 new water meters per year. I guess that we must have ether solved the problem or just got new policy makers. 1 CONT.

Policy makers at the local water department may have a conflict of interest, and may have developed a forecast that meets their needs.

Lee Whitney
39784 Flicker, Rd.
Fawnskin, CA 92333

Lee Whitney (WHITNEY)

Response to WHITNEY-1
The commenter states that he has owned homes in Big Bear for 30 years and that he feels water supplies could become a severe problem in the future. The DWP has agreed to serve the Project, and the DWP Hydrogeologist, Tom Harder, has shown that there are adequate water supplies to serve the buildout of the Fawnskin area including the Project (Appendix F of this 2020 Final EIR).

The commenter is concerned with climate change; see Response to CBD2-10. The commenter stated that as baby boomers retire to Big Bear the water use could double. He stated that in the past new water meters were limited to 250 meters a year. The DWP reports that currently less than 50 new water meters are installed each year. The commenter stated that there may be a conflict of interest in the policy makers.

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RE Mooncamp Development
Fawnskin Ca 92333

To County Land Use Services
Planning Division

I am completely in favor of the Moon Camp Development. Not only will this project help beautify Fawnskin, it will bring more revenue, business development and tourists to our beautiful town. It will help transform Fawnskin into a destination resort like it once was years ago. It will be a great addition to our town and community

Sincerel

Milton

1

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MILTON

Response to MILTON-1

The commenter states his support for the Project and says it will beautify Fawnskin and bring revenue, business development, and tourists to his town.

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Slowik, Matt - LUS

From: Nancy& Bill /Inn at Fawnskin [innatfawnskin@charter.net]
Sent: Wednesday, February 01, 2012 3:25 PM
To: Slowik, Matt - LUS
Subject: Moon Camp DEIR response
Attachments: letter to the County re mooncamp.doc; Moon Camp bike trail map0001.jpg

1

Dear Mr. Slowik,
Please see attached letter and map.

Thank you,
William Hazewinkel
Nancy Walker

The INN at FAWNSKIN
BED & BREAKFAST

January 26, 2012

County of San Bernardino
Land Use Services Department, Planning Division
385 North Arrowhead Avenue 1st Floor
San Bernardino, California 92415-0182

Attn: Matthew Slowik

Via E-mail to mslowik@lusd.sbcounty.gov and U.S. Mail

RE: "REVISED AND RECIRCULATED DRAFT ENVIRONMENTAL IMPACT REPORT NO. 2 FOR THE MOON CAMP 50-LOT RESIDENTIAL SUBDIVISION, TT NO. 16136 (BASED ON REVISED SITE PLAN) BIG BEAR LAKE, SAN BERNARDINO COUNTY, CALIFORNIA SCH #2002021105."

Dear Mr. Slowik,

As neighbors of the proposed subdivision, and residents of Fawnskin in general, we would like to voice our concerns.

Probably the biggest objection we have to the project is the rezoning issue. We feel the property was zoned RL-42 for a reason....one being to provide a buffer between more densely populated areas and the National Forest. To change that to allowing 50 home sites is excessive. Residents and visitors alike love the north shore of Big Bear Lake because it is sparsely populated, is largely National Forest, and provides the opportunity to be surrounded by nature, in a quiet environment. Adding another 50 homes will greatly change that atmosphere, and will certainly have a negative impact.

1 CONT.

Other concerns we have are adequate water supply. The homes along North Shore Drive that are on wells, already experience times of inadequate water supply. In light of the fact that the DWP now makes residents limit their outdoor watering should tell you something. If the current residents don't have adequate water, what impact will 50 new homes have?

2

On January 12 of this year, the Board of Directors of the Fawnskin Chamber of Commerce unanimously voted in favor of your requiring an easement/dedication for a westerly extension of the Alpine Pedal Path through the proposed Moon Camp development. Attached is a map with one option for this extension. From Forest Service land, the path could follow the alley behind existing homes on the easterly end of Fawnskin, then through the proposed subdivision, ending up almost to Canyon Rd. Should the proposed subdivision be approved by the County, the above would be, possibly, the only way to continue the path in a westerly direction towards the commercial area of Fawnskin. 3

We appreciate the opportunity to review the DEIR, and provide our comments.

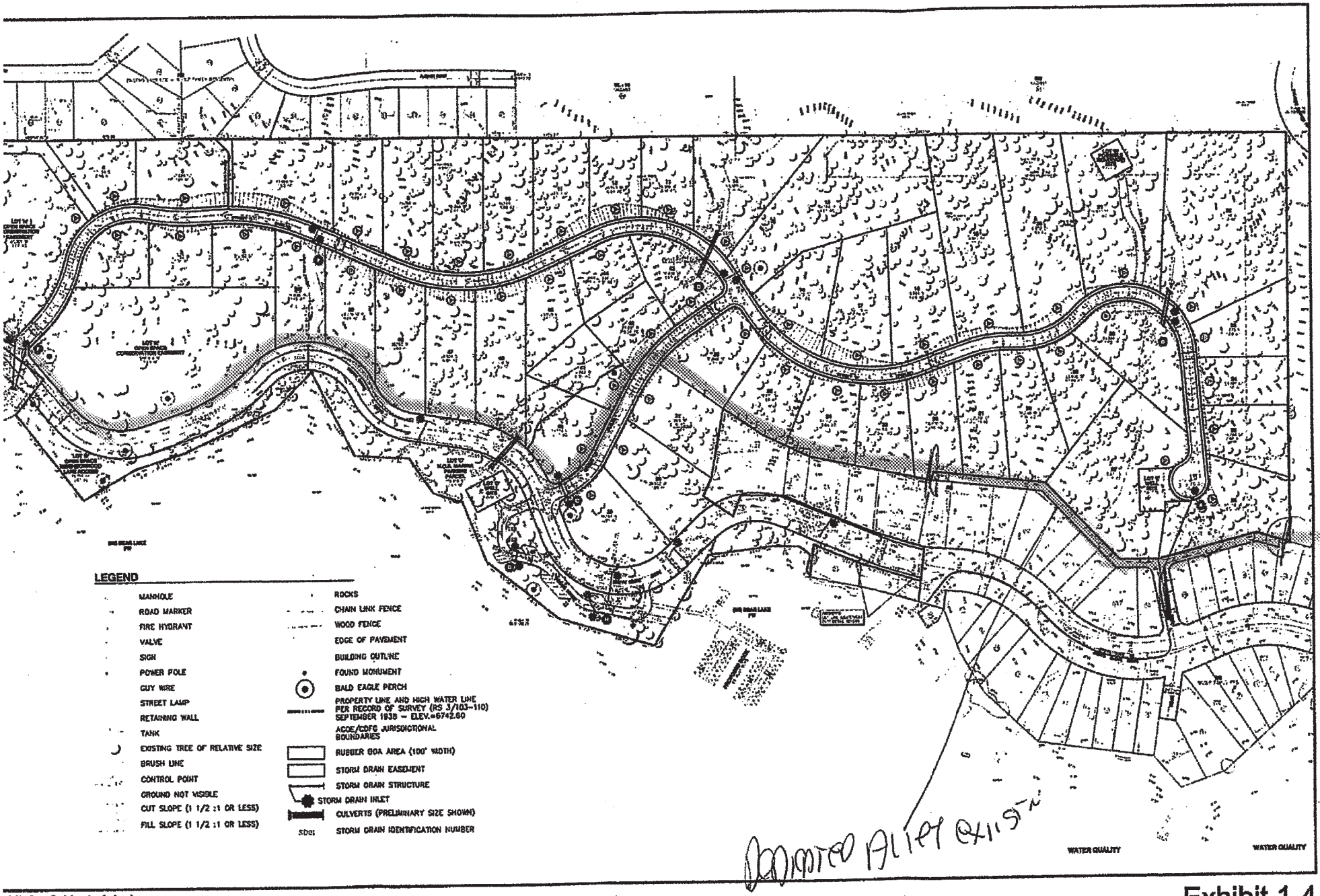
Very truly yours,

William C. Hazewinkel

Nancy C. Walker

William Hazewinkel
Nancy Walker

880 CANYON ROAD ~ POST OFFICE BOX 378 ~ FAWNSKIN, CA 92333 ~ (909) 866-3200
www.fawnskininn.com ~ innatfawnskin@charter.net



Hicks & Hartwick, Inc.

NORTH

Brandman Associates

89 • 09/2011 | 1-4_ttm 16136 Proposed 2011 Alt Proj.cdr

Exhibit 1-4
Moon Camp TTM No 16136
Proposed 2011 Alternative Project

SAN BERNARDINO COUNTY
MOON CAMP RESIDENTIAL SUBDIVISION PROJECT

Nancy Walker (WALKER)

Response to WALKER-1
The commenters state that their biggest objection is the rezoning from RL 40 to RS 20,000, believing that 50 lots is excessive. The 2020 Final EIR includes an Alternative Project that has reduced the number of lots from the original 92 to 50 lots with a minimum of 0.5 acre and average lot size of nearly 1 acre. Surrounding development is much more dense than what the Alternative Project includes.

Response to WALKER-2
The commenters state that homes along North Shore are on wells and at times experience inadequate water supply, and want to know what assurances are there that the 50 new homes will have adequate water. The DWP has agreed to be the water supplier, and its Hydrogeologist, Tom Harder, has shown that there is an adequate water supply for Fawnskin to build out including the 50 lots (Appendix F of this 2020 Final EIR).

Response to WALKER-3
The commenters state that the Board of the Fawnskin Chamber voted to request an easement for an Alpine Pedal Path extension through the Project—Caltrans and County Roads were consulted about the Pedal Path extension and both stated that it was not safe to extend the Pedal Path along the State Highway.

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Moon Camp Development Comment Letter

Robin Eliason [reliason@charter.net]

Sent: Sunday, January 22, 2012 8:11 PM

To: Slowik, Matt - LUS; Supervisor Derry; Supervisor Mitzelfelt; Supervisor Rutherford; Supervisor Ovitt; Supervisor Gonzales

Attachments: Mooncamp_letter_2012.docx (32 KB)

Hi – please consider the attached comments in your evaluation of the proposed Moon Camp development in Fawnskin, CA. Thank you. 1

Robin Butler Eliason (reliason@charter.net)

Robin and Scott Eliason
PO Box 309
Fawnskin, California 92333
January 22, 2012

County of San Bernardino
Land Use Services Department, Planning Division
385 N. Arrowhead Ave., First Floor
San Bernardino, CA 92415-0182
Attn: Matthew Slowik

Via E-mail to mslowik@lusd.sbcounty.gov and U.S. Mail

Re: "Revised and Recirculated Draft Environmental Impact Report No. 2 For The Moon Camp 50-Lot Residential Subdivision, Tt No. 16136 (Based On Revised Site Plan) Big Bear Lake, San Bernardino County, California Sch #2002021105."

Dear Mr. Slowik and County Supervisors,

We are long-time year-round residents of the community of Fawnskin and request that the County Supervisors consider the following comments in making their decision about the proposed Moon Camp development. We re-iterate our previous comments and present new comments below. 1 CONT

1) First and foremost, under CEQA, the only reason to approve a project with un-mitigatable significant impacts is for over-riding considerations of benefits to the public or County. **In the case of the Moon Camp development, there are no benefits that could possibly outweigh the unmitigated impacts.**

> ***15093. Statement of Overriding Considerations***
> *(a) CEQA requires the decision-making agency to balance, as applicable, the economic, legal, social, technological, or other benefits of a proposed project against its unavoidable environmental risks when determining whether to approve the project. If the specific economic, legal, social, technological, or other benefits of a proposed project outweigh the unavoidable adverse environmental effects, the adverse environmental effects may be considered "acceptable."*
>
> *(b) When the lead agency approves a project which will result in the occurrence of significant effects which are identified in the final EIR but are not avoided or substantially lessened, the agency shall state in writing the specific reasons to support its action based on the final EIR and/or other information in the record. The statement of overriding considerations shall be supported by substantial evidence in the record.*
>
> *(c) If an agency makes a statement of overriding considerations, the statement should be included in the record of the project approval and should be mentioned in the notice of determination. This statement does not substitute for, and shall be in addition to, findings required pursuant to Section 15091.*

2

a) Economic Impacts: There are many houses in our neighborhood and throughout the Big Bear Valley that have been on the market for years without selling. Fawnskin also has 3

many undeveloped lots in a wide range of sizes, views, and prices. There is no apparent need for additional lots and housing in the Fawnskin or the greater Bear Valley area now or in the foreseeable future. Residents and home-owners in Big Bear are struggling to survive. Adding more houses during this economic recession is not fair to local home owners who have been trying to sell for years. **Placing additional burden on already-struggling real estate situation is definitely not to the community's benefit; rather it is a clear detriment.** 3 CONT

b) Water Resource Impacts: The proposed development would result in more demand on already limited water resources. In the Big Bear area, we already have water conservation restrictions and guidelines. Adding additional housing (especially housing that is not needed) does not make sense. **Placing additional burden on the groundwater basin and the existing Fawnskin water system is definitely not to the community's benefit; rather it is a clear detriment.**

It appears that none of the three water service alternatives are feasible. All are complex, speculative, and uncertain. Option B, the stated preferred way for each of the three alternatives to tap into Fawnskin's water supply, seems to involve pipeline construction through occupied lots in our neighborhood. **Approving a development without a single clearly defined, feasible, and supported water supply would be irresponsible in the extreme, and probably also illegal.** 4

c) Fires and Evacuation Impacts: After having been evacuated twice for fires threatening the Fawnskin area (2003 Old Fire and 2007 Butler II Fire), we are extremely concerned about the impacts of more people and houses in our town in terms of safe and effective evacuation of our community. During each evacuation, it took people many hours to get off the mountain. Adding additional people to the community would result in more people having to be evacuated. The added population is much greater relative to Fawnskin than to Bear Valley as a whole, but the analysis of the impacts to emergency evacuation takes a valley-wide perspective. The impacts specifically to Fawnskin therefore are understated and not honestly disclosed. **Increasing the population in an area with limited evacuation means is definitely not to the public's or community's benefit; rather it is a clear detriment. Adding additional infrastructure that would require firefighter protection is not in the public interest.** 5

d) Bald Eagle Impacts: As development and activities around the mountain lakes have increased, habitat for bald eagles, a state-listed Threatened and federally-protected species, has been lost and/or degraded. While we concur with the findings in the DEIR that it is not possible to mitigate for the loss of bald eagle habitat, we feel that the extent of the effects is understated.

- The effects of the proposed project would likely include nesting bald eagles, not just wintering bald eagles visiting the area for 4 months a year. A pair of bald eagles has taken up residence in the Grout Bay area, including the Moon Camp proposed development, year-round (not just during winter months). They have built a nest and may soon produce young. These eagles forage in Grout Bay year- 6

round. The proposed mitigation measures only provide for cessation of activities at the proposed marina during winter months. As such, the significance of the loss of habitat is greater than described in the analysis of effects. Further loss of habitat could discourage this resident pair of eagles from nesting successfully. 6 CONT

- The proposed access road on the east end of the development (across from the marina entry driveway) and development of lots would further degrade the habitat quality for bald eagle perching at that favored and frequently-used perch site. It is unlikely that eagles would continue to perch at that site after another road and the marina were developed. 7

- The proposal fails to provide long-term provisions for protecting eagle perch habitat. If the residential area is developed, only "large" trees would be protected. Homeowners would be allowed to remove the small and medium sized trees needed to eventually grow into large trees to continue to provide perching sites. Over time as the "large" trees die and fall (or are cut to remove hazards), the site will lack suitable perch sites. Those perch trees are critical for bald eagle foraging. 8

- The analysis states that it is not possible to mitigate the effects to bald eagle. That is true – it is not possible to add more habitat for bald eagles anywhere around the mountain lakes. In fact, each year, bald eagle habitat throughout the San Bernardino Mountains diminishes in quality and quantity. The proposal does not include an alternative that reduces effects. Elimination of the marina, residential lots 38, 39, and 40, and elimi[6]Street B would provide much lower levels of effects to bald eagles than is in the 2011 proposal. While it is not possible to mitigate all of the effects, there are certainly reasonable alternatives that could reduce the extent and severity of effects. This would at least provide the Supervisors with a range of alternatives up[6]ch to base their decision. 9

- **Eliminating and degrading a limited resource (bald eagle habitat) is definitely not to the public's or community's benefit; rather it is a clear detriment.** 10

e) Rare Plant Habitat Impacts: The impacts to pebble plain habitat and to ash-gray paintbrush and other rare plants are understated and would not be mitigated to below the level of significance. The analysis is misleading and fails to correctly disclose these unmitigated significant effects. Information and analysis related to pebble plains habitat is erroneous and misleading. 11

- *Pebble Plain Habitat*: The analysis discounts all impacts to pebble plain habitat based on an out of date definition and the personal opinion of one source. The areas occupied by *Castilleja cinerea*, *Ivesia argyrocoma* and *Arabis parishii* are, by definition, pebble plains (U.S. Forest Service Pebble Plain Habitat Management Guide, 2002). The DEIS fails to disclose the acreage of this habitat. However, if the 10- acre Dixie Lee parcel is actually unprotected and available for legitimate mitigation, it is likely that the approximately 5 acres of high quality pebble plain habitat there would adequately offset project-related impacts to pebble plain habitat 12

(but would not be adequate mitigation for impacts to ash-gray paintbrush or other rare plants, as described below). The factual errors regarding pebble plain impacts should be corrected throughout the document. 12 CONT

- *Ash-Grey Paintbrush Mitigation:* The proposed mitigation will not reduce or offset the impacts to ash-grey paintbrush to below significance for two reasons. First, the value of the onsite mitigation depends heavily on the quality and effectiveness of management. Small habitat fragments such as Lots A and H would be extremely vulnerable to degradation and edge effects and maintenance of habitat quality would rely heavily on effective and active management. The protection of the plants and habitat on those lots relies on self-policing by the home owners group and lacks teeth to enforce the protective measures. As we've seen time and again in the Big Bear area, commitment to mitigation measures has evaporated soon after the houses are built. 13

- Second, the proposed 10-acre off-site mitigation parcel at Dixie Lee Lane would not off-set impacts to ash-grey paintbrush that would occur at Moon Camp. Within the 10-acre parcel, there are about 5 acres of pebble plain habitat. This pebble plain habitat, while of very high quality and high conservation importance, supports nearly no ash-grey paintbrush - so it would not offset losses of this special-status species. The mitigation value of the off-site pebble plain habitat is subject to the same speculative future management as lots A and H. And finally, it is likely that this parcel is already protected – at least it has been fenced and signed as such for over 20 years, since it was supposedly set aside as mitigation for development of the Big Bear High School. 14

- The mitigation calculations for ash-grey paintbrush (pg. 2-45) are nonsense. Mitigation ratios for rare plants are typically calculated and evaluated by acres of roughly equivalent occupied habitat, with a typical target of 3:1 equivalent acres. Exhibit 2-2 appears to provide between a 1:1 and 2:1 ratio by acreage. This is just an eyeball estimate, because the document fails to disclose the actual acreages or acreage ratio. **It does not make sense to base mitigation ratios on numbers of individuals because this is prone to large errors in counts, and also wide fluctuations from year to year.** The habitat to be impacted and proposed mitigation lands need to be characterized in terms of habitat quality, density, and acreage. 15

If the acreage is of roughly equivalent habitat quality and population density, than 3:1 or greater is an appropriate threshold for proper mitigation that has well-established precedent. There is no way based on the information in the document to determine the adequacy of the proposed mitigation. However, based on the disclosed fact that the Dixie Lee pebble plain supports only very low numbers of ash-grey paintbrush and therefore cannot be considered equivalent habitat, combined with the apparent 1:1 or 2:1 onsite mitigation ratio, the total mitigation appears to be less than 3:1. This does not provide for a valid basis for determining 16

that impacts to ash-grey paintbrush would be mitigated to below the level of significance. 16 CONT

- The proposal would result in impacts to ash-grey paintbrush and pebble plain habitat, regardless of the ultimate mitigation package. Any Moon Camp subdivision would have significant impacts to this species and its habitat. Therefore, an alternative should have been developed to reduce the extent and severity of these significant impacts. In development of this alternative, additional lots should be dropped in order to maximize protection of this rare species and rare habitat type: 1, 2, 3, 4, 5, 47, 49, and 50. Lot F (well lot) should be moved so it is not in rare plant habitat. This would at least provide the Supervisors with a range of alternatives upon which to base their decision. 17

- *Other Rare Plants:* In addition to ash-grey paintbrush, the project would impact four list 1B rare plants (Parish's rock cress, silver-haired ivesia, Bear Valley phlox, and purple monkeyflower). The first paragraph on page 2-47, claiming that these impacts would not reach the level of significance is arbitrary and capricious. First, other than disclosing the presence of these species, there is no analysis or disclosure of impacts to these species, or the extent to which (if at all) the proposed mitigation may offset these impacts. Second, impacts to these species, based on their recognized status, should each trigger mandatory findings of significance under CEQA sections 15380 (b) and (d) (per California Department of Fish and Game: Protocols for Surveying and Evaluating Impacts to Rare Plant Populations and Natural Communities, November 24, 2009). 18

- *Herbicides and Fertilizers:* There are no provisions in the proposal to protect the rare plant habitat from effects of herbicides and fertilizers. Runoff from adjacent and upslope lots and roads could impact the plants in ways that were not analyzed or disclosed. 19

- **Eliminating and degrading a limited resource (ash-grey paintbrush and pebble plain habitat) is definitely not to the public's or community's benefit; rather it is a clear detriment.** 20

2) There are many specifics about the proposed development that are problematic. We describe them below.

a) Marina Impacts. The proposed marina and marina parking location is problematic for many reasons and should not be approved:

- The marina parking lot and road access is located one of the favored bald eagle perch sites. During the winter, that area often has one or two eagles perched in the trees. They use those perch sites to watch for prey (fish and ducks) in the lake. 21

- Dredging the marina would eliminate shallow water in a sheltered bay that is favored by waterfowl, especially during the winter. Even if no dredging is needed, installation of boat docks would reduce the habitat quality for waterfowl. In turn, if waterfowl habitat is lost or degraded, the bald eagle foraging opportunities will diminish or be 22

eliminated. During the winter when the lake is partially frozen, there have been a number of times that we have seen eagles (including one time when there were 7 eagles) perched on the ice next to open water in the location of the proposed marina. 22 CONT

- The marina's access road entry and exit points to Highway 38 will increase the risk of vehicle accidents along this already-busy winding mountain road. Vehicles (including those pulling boat trailers) trying to enter or exit the marina access road will cause more traffic safety issues. As a dangerous ingress/egress on a curve with poor site distance, cars turning into or out of the parking lot would create an extremely dangerous traffic situation. That curve is called "dead man's curve" for a reason. 23

- Building parking areas and roads so close to the water would increase run-off that could affect water quality, further affecting fish, waterfowl, and species that eat them. Installing more asphalt and hardscape into that narrow buffer strip between Hwy 38 and the water is undesirable. 24

- **For these reasons, the marina should not be approved.**

b) Drainage Impacts: The drainages and wet swales in the project area are important for a number of reasons. Aside from helping protect water quality and water control, they are areas that wildlife focus for water and moisture. Additionally, they support some rare plants, including purple monkeyflower (*Mimulus purpureus*), a List 1B species that would suffer significant unmitigated (and undisclosed) impacts. It appears that storm drains would be installed in those areas, eliminating above-ground flow and soil moisture important to plants and animals. Instead, the natural drainages should be left as is and those residential lots should be eliminated (Lots 14, 40, 41, 42, 43, and 50). This would at least provide the Supervisors with a range of alternatives upon which to base their decision. 25

c) Visual Impacts: We are concerned about the visual impacts of the large amount of cut-and-fill that would be required to construct the interior road in the proposed development. 26

d) Lighting: As an amateur astronomer, I value the dark skies in our neighborhood and the lack of street lights. While the proposal includes measures to reduce the effects of street lights, we feel that the street lights are unnecessary – no other areas in Fawnskin (and most of the Big Bear Valley) have or need them. Adding streetlights not only creates light pollution, they would completely change the character of the landscape in the area. Because of the sloping landscape of the Moon Camp project, they would be visible from many areas. **Please do not approve installation of street lights in the proposed development.** 27

e) Mountain Character: We value the quietness of our neighborhood. If the Supervisors approve the proposed development, the character will completely change. We will be faced with years of construction noise. There is no way to mitigate for those impacts. 28

f) Traffic/Safety Impacts: We are very concerned about the two intersections that would be added to this very curvy and already dangerous stretch of Hwy 38. In particular, creating a 4-way intersection at Street B and the Marina entrance on that curve is seems problematic. 29

If installation of turn lanes is included in the proposal, we could not find it. If it is part of the proposal, widening of Hwy 38 would result in further losses of open space and bald eagle habitat. We request elimination of Street B (some lots along Street B should be eliminated for bald eagle habitat protection as mentioned above; other interior lots could be eliminated and made open space or alternatively adjacent lots could be enlarged) and, as mentioned before the elimination of the marina. Eliminating those two parts of the proposal would help reduce, but not eliminate, the potential traffic and safety concerns along Hwy 38. 29 CONT

g) Open Space: While the proposal includes "Open Space" lots, we feel that the Open Space is inadequate. Some of the Open Space lots will not truly be open – the marina and ash-gray paintbrush lots will be fenced and otherwise unavailable to residents and neighbors. The only true Open Space would be along the shoreline. For residents of the proposed development, particularly the northern-most lots, they may not want to walk that far and cross Hwy 38 in order to access Open Space (for example, when walking dogs or playing with children). **We strongly urge that several of the interior lots (that do not have rare plants, bald eagle perches, or drainages/swales) currently slated for development be changed to Open Space.** These would provide residents areas for children to play, snow-playing, and dog-walking and lessen the likelihood of impacts in the Conservation lots. 30

h) Zoning Change: When buying property, we researched the current zoning of property around the house and were comfortable with the R-40 zoning of the Moon Camp property. We never would have considered buying property at this Fawnskin location had we known that the Board of Supervisors would consider changing it, thereby adversely affecting our property. If it were this easy to change zoning, the County General Plan would be useless. Please use it as it was meant to be, as a planning document to guide the future of the County and its residents. Please do the right thing and smart thing for the environment, the residents, and visitors by denying this development proposal. **Again, there is no public or community benefit that justifies the un-mitigated impacts that would occur by changing the current zoning to one that would allow for substantial development.** 31

We again urge the County Supervisors to fulfill their responsibilities to protect the Public Trust and to meet obligations to protect the quality of the environment. Please select the "No Project" alternative. **The County Supervisors have no reasonable basis to approve this project. Over-riding considerations cannot be justified because this project is NOT in the public interest.** This proposed project should be denied. 32

Sincerely,

ROBIN and SCOTT ELIASON

Robin and Scott Eliason (ELIASON)

Response to ELIASON-1
The commenter focuses on the discrepancy between the White botanical survey results (2007) and Krantz's findings in 2008.

Mr. White mistakenly identified several areas as containing ashy-grey Indian paintbrush and they do not (the two polygons to the east in his original survey); and he overestimated the extent of ashy-grey Indian paintbrush in the areas of Lots 47-50 based upon the extent of Wright's matting buckwheat, not actual ashy-grey Indian paintbrush distribution. The 2010 survey by Dr. Krantz confirmed the general distribution of the 2008 survey and provided quantitative data concerning discrete and estimated ashy-grey Indian paintbrush numbers and densities. Additionally, an updated survey completed in 2016 by Dr. Krantz noted that there are essentially no changes in the distributions of rare plant species occurring on the Moon Camp Property in comparison with previous surveys and as described in the RRDEIR (Appendix K of this 2020 Final EIR).

Refer to Appendix I of this 2020 Final EIR for the recent Technical Review of the Biological Database for the Moon Camp Project Site prepared by ELMT Consulting for additional analysis of known and potential special-status species. Pages 2 through 4 address the ashy-grey Indian paintbrush, and Table 1 shows the habitat numbers for ashy-grey Indian paintbrush.

Response to ELIASON-2
The commenter is correct that the Revised and Recirculated Draft Environmental Impact Report (RRDEIR No. 2) does identify significant unavoidable impacts to the American bald eagle due to the potential for removal of perch trees on the Project site and/or construction of residential uses that will introduce human activity, light and noise into an area utilized by bald eagles (RRDEIR No. 2, page 2-48). CEQA requires that a lead agency, prior to approval of the Project for which an EIR discloses a significant unavoidable impact, must adopt a Statement of Overriding Considerations (CEQA Guidelines Section 15093). The Statement of Overriding Considerations is a finding that economic, legal, social, technical, or other benefits of a Project outweigh its unavoidable environmentalists. The County of San Bernardino acknowledges that the commenter does not believe that the benefits of this Project outweigh its identified unavoidable significant impacts. The County of San Bernardino decision-makers will consider of all the information pertinent to this Project in deciding whether or not to adopt a Statement of Overriding Considerations.

Response to ELIASON-3
The commenter asserts that the development of the Project will place additional strain on the already struggling real estate economy and home values in the Fawnskin and greater Big Bear Valley area. This comment relates to the potential economic and not environmental impact to the Project. Accordingly, no formal responses are required. The comment shall be forwarded to the decision-makers for their consideration.

Response to ELIASON-4
The commenter raises concern regarding the availability of water supply to serve the Project. The RRDEIR No. 2 and RRDEIR No. 2 identified three potential sources of water supply for the Project. Subsequent to circulation of the RRDEIR No. 2 for public review and receipt of the comment letter

from commenter, the Project Applicant has secured the services of a water supply agency to provide potable water service. As discussed in the RRDEIR No. 2, County of San Bernardino CSA 53C has authority to provide water and wastewater services to the Project site. However, CSA 53C does not have potable water facilities in the Big Bear Valley and are unable to economically provide water service to the Project site. By way of an Outside Service Agreement for Potable Water Services dated November 17, 2015, between CSA 53C and DWP, DWP has agreed to be the water supplier to the Project. Consistent with the analysis in the RRDEIR No. 2, DWP will own the water distribution facility, as well as the on-site groundwater wells. Appropriate changes to the EIR text have been made and included in the Final EIR errata.

Response to ELIASON-5

The commenter is concerned that the Project will result in increased population grown in the Fawnskin community thereby increasing the difficulty of adequate and efficient evacuation in the event of forest fire. The RRDEIR No. 2 consisted of the recirculation of the Biological Resource section of the EIR. Therefore, comments regarding public safety are outside the scope of the RRDEIR No. 2.

Response to ELIASON-6

The commenter is concerned that development of the Project site would inhibit use of currently used bald eagle perch sites. The RRDEIR No. 2 includes a comprehensive analysis of the Project's impacts to the American bald eagle. The analysis concludes that the Project would result in a potentially significant impact to the bald eagle. As mitigation, the EIR proposes a number of measures, including preservation of existing perch trees in place and replacement of downed perch trees with artificial perch trees at a 5:1 ratio. The commenter is concerned that despite preservation of the existing perch trees, bald eagles would not use such perch trees due to the proximity of the Project development and human habitation. This conclusion is speculative at this point. Although the RRDEIR No. 2 acknowledges the impact of approximate human habitation on bald eagle, there is no evidence to suggest that eagles would no longer use perch sites after project completion.

Refer to Appendix I of this 2020 Final EIR for the recent Technical Review of the Biological Database for the Moon Camp Project Site prepared by ELMT Consulting for additional analysis of known and potential special-status species. Specifically, the discussion of the bald eagle on pages 1 and 2 address the commenter's concerns.

Response to ELIASON-7

The commenter is concerned that development of the Project site would inhibit use of currently used bald eagle perch sites. The RRDEIR No. 2 includes a comprehensive analysis of the Project's impacts to the American bald eagle. The analysis concludes that the Project would result in a potentially significant impact to the bald eagle. As mitigation, the EIR proposes a number of measures, including preservation of existing perch trees in place and replacement of downed perch trees with artificial perch trees at a 5:1 ratio. The commenter is concerned that despite preservation of the existing perch trees, bald eagles would not use such perch trees due to the proximity of the Project development and human habitation. This conclusion is speculative at this point. Although the RRDEIR No. 2 acknowledges the impact of approximate human habitation on bald eagle, there is no evidence to suggest that eagles would no longer use perch sites after Project completion.

Refer to Appendix I of this 2020 Final EIR for the recent Technical Review of the Biological Database for the Moon Camp Project Site prepared by ELMT Consulting for additional analysis of known and potential special-status species, including bald eagle habitat and conservation discussion on pages 1 and 2.

Response to ELIASON-8
The commenter indicates that development of the Project will result in inadequate protection for necessary bald eagle perch sites. As indicated, Mitigation Measure BR-4 (RRDEIR No. 2, page 2-59) requires preservation of all existing mapped bald eagle perch trees, as well as replacement of perch trees that must be removed due to hazardous conditions at a 5:1 ratio. It is true that the Project may result in the loss of smaller trees that had not been identified as important perch trees for the bald eagle. However, the requirement to preserve and protect existing known perch trees, as well as replace those which are lost because they become hazardous conditions are sufficient to preserve perching opportunities for the bald eagle in the future.

Refer to Appendix I of this 2020 Final EIR for the recent Technical Review of the Biological Database for the Moon Camp Project Site prepared by ELMT Consulting for additional analysis of known and potential special-status species, including bald eagle habitat and conservation discussion on pages 1 and 2.

Response to ELIASON-9
The commenter asserts that the EIR should have included an alternative that looked at elimination of the marina, lots 38, 39 and 40 and access point Street B. Initially, Street B cannot be eliminated from the Project because, under County of San Bernardino requirements, the Project site must have two points of access to Highway 39. Elimination of access Street B would leave only one connection to SR-38. Additionally, there is no evidence to suggest that elimination of lots 38, 39, and 40, as well as the marina would result in elimination or reduction of an identified significant environmental impact. As indicated in the RRDEIR No. 2, the only significant unavoidable impact that will result from the Project is to the American bald eagle. An alternative configured as suggested by the commenter would not result in elimination or significant reduction of that impact and therefore need not be considered by the County of San Bernardino in this 2020 Final EIR.

Refer to Appendix I of this 2020 Final EIR for the recent Technical Review of the Biological Database for the Moon Camp Project Site prepared by ELMT Consulting for additional analysis of known and potential special-status species, including bald eagle habitat, and conservation discussion on pages 1 and 2.

Response to ELIASON-10
The commenter makes a general comment that eliminating bald eagle habitat is not to the public's or community's benefit. This comment will be forwarded to the decision-makers.

Response to ELIASON-11 and -12
The commenter asserts that the RRDEIR No. 2 incorrectly assessed and analyzed the existence of, and project impacts to, pebble plain habitat on the project site. The commenter suggests that the RRDEIR No. 2 and Supplement Focused Special Status Plant Survey conducted by Dr. Krantz in 2010, utilized the incorrect definition of pebble plain in determining the extent of pebble plain habitat on

the project site. The author of the 2010 Supplement Focused Special Status Plant Survey, Dr. Krantz, the preeminent authority on pebble plain habitat and related plant species, concluded that true pebble plain habitat is characterized by the existence of clay soils with a vestiture of Saragossa quartzite pebbles and presence of indicator plant species (presence of *Eriogonum kennedyi* ssp. and *Arenaria ursina* together, as originally mapped by the author in 1983). The "pebble plain soil conditions" identified on the central knoll on-site was identified as such and has been included and preserved in large part by Letter Lot A. The 2010 Supplement Focused Special Status Plant Survey concluded that the 0.69-acre area that had been previously characterized as true pebble plain habitat, was in fact not true pebble plain habitat due to the lack of the existence of the two primary indicator species, *Eriogonum kennedyi* ssp. and ssp. and *Arenaria ursine*. The clay soils with a vestiture of Saragossa quartzite pebbles are the signature characteristic of the unique plant community that is called "pebble plains." In fact, Dr. Krantz was the first to actually apply the term to this plant community (Krantz 1983). To suggest that all other areas "occupied by *Castilleja cinerea, Ivesia argyrocoma*, and *Arabis parishii* are, by definition, pebble plains" is inappropriate and would greatly expand the definition to include much of Big Bear Valley, including all of Sugarloaf Ridge, which has *Arabis parishii* and *Castilleja cinerea*, but is in fact a lodgepole pine forest without any similar soils. Ashy-grey Indian paintbrush or *Ivesia argyrocoma* are also known to occur in meadows; *Arabis parishii* is found on limestone, and *Ivesia a.* is also found in Baja California, none of which are even remotely considered pebble plain habitats.

The comment cites the USFS Pebble Plain Habitat Management Guide (2002). Although the USFS Pebble Plain Habitat Management Guide purports to provide a points system for determining the existence of pebble plain habitat, according to Dr. Krantz, application of the Guide's point system results in overly inclusive results and would lead to characterization of lands that are not truly pebble plain, as pebble plain habitat, even those areas that do not have clay soils. Even by these standards, the on-site occurrence of pebble plain-like soils on the Moon Camp property would be limited to the 0.69-acre Knoll area, largely contained within Lot A. It should be noted that the USFS definition of pebble plains describes five "strong indicators" (given 2 points each): clay soils (marginal on the Knoll), presence of *Eriogonum kennedyi* ssp. *Kennedyi* or ssp. *austromontanum* (neither on-site), *Arenaria ursina* (not on-site), and *Ivesia argyrocoma (on site).* The only good "strong indicator" on-site is the presence of pebble plain-like soils. The presence of *Ivesia argyrocoma*, which occurs on many non-pebble plain habitats in the San Bernardino Mountains and in Baja California, is not considered to be a "strong indicator" by Dr. Krantz. The other "weak indicators" are truly only weak indicators—all occurring in a wide range of non-pebble plain habitats throughout the Big Bear-Holcomb Valley areas.

The commenter goes on to mention that the Dixie Lee Lane Conservation Area is high-quality pebble plain habitat that would adequately offset Project-related impacts to pebble plain habitat on-site, but would not be adequate mitigation for impacts to ashy-grey Indian paintbrush or other rare plants. The County of San Bernardino agrees that to the extent the Project has any impacts to pebble plain habitat, preservation of the Dixie Lee Lane parcel would be adequate to offset such impacts.

Response to ELIASON-13

Contrary to the commenter's assertions, the creation of conservation Lots A and H will effectively create the first of its kind ashy-grey Indian paintbrush preserve dedicated solely to protection of this

important population of that species. The County of San Bernardino disagrees with the commenter's characterization of the Conservation Areas as small habitat fragments. An updated analysis of the ashy-grey Indian paintbrush dated May 23, 2018, from the 2010 Supplemental Focused Special Status Plan Survey performed by Dr. Krantz, is based on detailed Project site surveys of the extent of ashy-gray Indian paintbrush occurrences, and shows that the Project site contains approximately 7.71 acres of occupied ashy-gray Indian paintbrush habitat (Appendix I) of this 2020 Final EIR. Conservation areas Lot A and Lot H will preserve 4.84 acres of that occupied habitat resulting in a mitigation ratio of greater than 1.68:1. In terms of individual plant occurrences, permanent preservation of the habitat within Lots A and H would conserve nearly 88 percent of ashy-grey Indian paintbrush plants on-site within two large contiguous Conservation Areas; a ratio of 7:1 individual plants. The distribution of pebble plains is by natural circumstances, predating human occupation in the valley, fragmentary by nature—limited openings in the pine forest. Mitigation measure BR-1 (RRDEIR No.2, page 2-57 and 2-58) requires the permanent preservation and maintenance of the Conservation Areas. Conservation areas will be controlled and managed by a qualified Conservation Entity that will receive property pursuant to a conservation easement. Mitigation Measure BR-1 also requires Conservation Areas to be fenced and for signage to be erected alerting residents and their guests of the sensitive nature of the Conservation Areas and prohibiting access thereto. The Project CC&Rs will also include enforcement mechanisms allowing the Homeowner Association, individual residents, the County of San Bernardino, as well as the chosen Conservation Entity to bring enforcement action where there is a violation of any provisions in the CC&Rs or project conditions of approval relating to the preservation and maintenance of the Conservation Areas.

Response to ELIASON-14

The County of San Bernardino agrees with the commenter that permanent preservation of the Dixie Lee Lane property would not, in and of itself, adequately mitigate for the Project's impacts to the ashy-grey Indian paintbrush. As disclosed in RRDEIR No. 2 and the 2010 Supplemental Focused Special Status Plant Survey, although the Dixie Lee Lane property is comprised of high-quality pebble plain habitat and will require host species for the ashy-grey Indian paintbrush, very few individual occurrences of ashy-grey Indian paintbrush were identified in the 2010 Survey. The Dixie Lee Lane property would be subject to a conservation easement in favor of a qualified Conservation Entity similar to Lot A and Lot H. The Conservation Entity would be provided with a non-waste endowment to allow for the perpetual maintenance and preservation of the Dixie Lee Lane property. The Conservation Entity will, pursuant to the terms of the conservation easement, be obligated to take such steps as required to ensure the continued viability of the Dixie Lee Lane property as high-quality pebble plain habitat. Contrary to the commenter's assertions, this property has not been previously pledged as mitigation for any other development project in the Big Bear Valley. The Project is currently fenced at the election of the property owner to preclude unauthorized access.

Response to ELIASON-15 and -16

The commenter questions the adequacy of the proposed mitigation for the ashy-grey Indian paintbrush. An updated analysis of the ashy-grey Indian paintbrush habitat, dated May 23, 2018, is included as Appendix I of this 2020 Final EIR. Within that analysis, Dr. Krantz concluded that based on careful examination of the Project site and documentation of individual occurrences of ashy-grey Indian paintbrush, there were 5,567 individual plant occurrences on the Project site; 4,895 of which are located within the identified Conservation Areas of Lot A and Lot H. The 2018 analysis also

concluded that there was approximately 7.71 acres of occupied ashy-grey Indian paintbrush habitat on the Project site; 4.84 acres of which is permanently preserved in the creation of Conservation Areas represented by Lot A and Lot H. Utilizing estimated counts of individual ashy-grey Indian paintbrush plants, creation of Lot A and Lot H will result in preservation of approximately 90 percent of the rare plants, or mitigation at a ratio of 7:1. Although other portions of the Project site contain plant species that have been associated with ashy-grey Indian paintbrush, such as the Wright's matting buckwheat, the lifecycle of the ashy-grey Indian paintbrush species is such that it is unlikely that these occurrences of Wright's matting Buckwheat will ever host ashy-grey Indian paintbrush occurrences. Ashy-grey Indian paintbrush is a hemi-parasite on its host plants, and does not readily disperse; dropping its seeds in the immediate vicinity of the host plants themselves. Thus, the actual occupied habitat for ashy-grey Indian paintbrush does not change much from year to year. Therefore, the mitigation proposed by the Project will exceed the 3:1 ashy-grey Indian paintbrush mitigation requested by the commenter.

Response to ELIASON-17

The commenter suggests that the EIR should analyze an alternative that would adjust the developable lot layout in a manner that completely avoids occupied ashy-grey Indian paintbrush habitat. CEQA requires an EIR to describe a reasonable range of alternatives to the Project, which would feasibly obtain most of the basic objectives and would avoid or substantially lessen the significant effects of the Project (CEQA Guidelines Section 15126.6). An EIR need not consider and analyze every conceivable alternative to the Project. Rather, it must consider a reasonable range of potentially feasible alternatives that will foster informed decision-making and public participation (CEQA Guidelines Section 15126.6(a)). As indicated in Section 2 of the RRDEIR No. 2, page 2-17 through 2-19, the Project will not have a significant unavoidable impact on the ashy-grey Indian paintbrush. Accordingly, the EIR is not required to analyze an alternative that would avoid or substantially lessen impacts to ashy-grey Indian paintbrush.

Response to ELIASON-18

Four other list 1B rare plants occur on-site: *Arabis parishii, Ivesia argyrocoma, Mimulus purpureus,* and *Phlox dolichantha.* All four of these species, although restricted or nearly restricted to the Big Bear area (the *Mimulus* and *Ivesia* both also occur in Baja California), are distributed rather widely throughout the area, occurring in a wide range of habitats other than pebble plains. All four of these species are found on the Dixie Lee Lane pebble plain and adjacent black oak woodland (*Phlox dolichantha*). The *Arabis parishii, Ivesia argyrocoma and Mimulus purpureus* all occur on Lots A and H as well. *Arabis parishii* occurs primarily on the knoll pebble plain-like soils and several plants on the small openings on Lots 32 and 34. *Ivesia argyrocoma* occurs primarily on the knoll and rear swale of Lot 50. *Mimulus purpureus* occurs rather widely in forest openings, occurring in openings in the Jeffrey pine forest and on Lots A and H. *Phlox dolichantha* occurs widely on steeper, black oak-wooded slopes, as below the USFS Polique Canyon pebble plain; and also under black oaks on edges of the Dixie Lee Lane pebble plain. All four occur on and around the Dixie Lee Lane pebble plain in greater densities than here. See also Response to CBD2-3 and CBD2-4 concerning distribution of these four List 1B species. "Mandatory Findings of Significance," as cited under the CEQA, require that an Environmental Impact Report must be prepared to address these potential impacts to the environment. This has been done not once, but twice in the case of the Moon Camp Project—once for the initial 100-lot proposal and again, in response to the findings of the first DEIR, for the 50-lot

proposal; and then the DEIR has been recirculated yet again concerning the revised Lot configurations and Letter Lots proposed with the current revised Application.

Response to ELIASON-19
Lot A and H are not hydrologically "downstream" from other residential properties. Uphill lots from Lot A will drain to the primary access street, and Lots 1, 2 and 3 drain to the west and east of the Knoll, respectively. Lot H is not downstream from other lots.

Response to ELIASON-20
The pebble plain and ashy-grey Indian paintbrush habitat within the preserve parcels on-site will be protected in perpetuity. The Conservation Entity, together with informed local residents, will monitor and help maintain the preserve parcels in the long term.

Response to ELIASON-21
The commenter indicates that the marina parking lot is located in proximity with one of the favorite bald eagle perch sites. This comment will be forwarded to the decision-makers.

Response to ELIASON-22
The commenter asserts that development of the marina will degrade waterfowl habitat, thereby reducing bald eagle forging opportunities. There is no evidence to suggest that development of the marina will reduce bald eagle forging opportunities along the lake front. Moreover, as required by Mitigation Measure BR-8 (RRDEIR No. 2, page 2-60), the marina may not be utilized for motorized boating between December 1 and April 1, prime bald eagle nesting and forging season. Accordingly, the County of San Bernardino does not believe that development of the marina will result in an additional impact to the bald eagle from loss of forgoing opportunities.

Response to ELIASON-23
The commenter asserts that the location of the entry road to marina on SR-38 will increase risks to accidents. RRDEIR No. 2 consists of the recirculation of the Biological Resource section of Project EIR. As such, comments related to traffic and public safety are outside the scope of the EIR and therefore need not be formally addressed.

Response to ELIASON-24
RRDEIR No. 2 consists of the recirculation of the Biological Resources section of the Project EIR. Therefore, comments related to run-off and water quality are outside the scope of this EIR and therefore need not be addressed.

Response to ELIASON-25
The Project was designed to maintain natural drainage facilities to the extent feasible by incorporating culverts to transport the water from the uplands portion of the natural drainage swells under Project roadways where the flows would continue unimpeded through natural drainages. Allowing stormwater to continue to utilize the natural drainages that remain after Project development will help in maintaining free development conditions to the extent feasible and thereby preserve species within these areas.

The Project will impact only 0.04 acre of the 1.5 acres of on-site waters of the U.S. The impacts are only to ephemeral drainages and will not result in impacts to jurisdictional wetlands.

Response to ELIASON-26
The commenter raises concerns regarding the visual impacts of roadway development within the Project site. RRDEIR No. 2 represents the recirculation of the Biological Resource section of the Project EIR. As such, comments regarding visual impacts are outside the scope of the RRDEIR No. 2 and therefore need not be addressed formally in writing.

Response to ELIASON-27
The commenter is concerned that the Project will result in the introduction of new light sources that will degrade night sky conditions in the Project vicinity. RRDEIR No. 2 represents the recirculation of the Biological Resources Section of the Project EIR and as such, comments regarding visual impacts are outside the scope of the document and need not be formally addressed in writing. However, the commenter is directed to mitigation measures included in RRDEIR No. 2 including Mitigation Measure BR-9 and BR-10 (RRDEIR No.2, page 2-60 and 2-61), which restrict the height of street lamps on the Project site to 20 feet and require them to be fully shielded to focus light onto the street service avoiding any light spillover. These mitigation measures also limit outdoor lighting for proposed homes to 1,000 lumens. Although these mitigation measures are intended to mitigate impacts to biological resources, they will also limit impacts to the night sky.

Response to ELIASON-28
The commenter has a general concern regarding construction noise. This comment does not raise any specific issue related to the adequacy of the EIR. This comment will be forwarded to decision-makers for consideration.

Response to ELIASON-29
The commenter raises concern regarding traffic safety on the Project site. The commenter asserts that the location of the entry road to marina on SR-38 will increase risks to accidents. RRDEIR No. 2 consists of the recirculation of the Biological Resources section of Project EIR. As such, comments related to traffic and public safety are outside the scope of the EIR and therefore need not be formally addressed.

Response to ELIASON-30
The commenter makes a general comment regarding the need for more open space within the Project site to allow for additional recreational areas for residents of Project site. This comment does not identify a concern or deficiency concerning the adequacy of the analysis included in the RRDEIR No. 2. This comment will be forwarded to the decision-makers for consideration.

Response to ELIASON-31
The commenter makes a general comment regarding the proposed General Plan Amendment and zone change and urges the County of San Bernardino to not approve the request. This comment does not identify a deficiency concerning the analysis included in the RRDEIR No. 2. This comment will be forwarded to the decision-makers for consideration.

Response to ELIASON-32
The commenter makes a general comment regarding the Project not being in the public interest. This comment does not raise a concern regarding the adequacy of the RRDEIR No. 2. This comment will be forwarded to the decision-makers for consideration.

Slowik, Matt - LUS

From: Russ Humphreys [rdh@rhainsurance.com]
Sent: Monday, February 06, 2012 10:28 AM
To: Slowik, Matt - LUS
Subject: moon camp proposed changes

Dear Sir. I am a resident of Fawnskin. My comments, however, are based on my concern not for only Fawnskin, but the national forest in general.

I am very concerned about the continued encroachment on the forest itself by the space allowed for home development in its current proposal. Any alterations to reduce the size of space for buildings would be most detrimental for a number of reasons and only help developers make additional money at the expense of the environment and the public. I see no earthly reason why the change should be considered. It certainly does not enhance the public welfare at all. 1

Actually, all factors considered, it is a negative move to allow the changes proposed. What is on the current drawing board already affects the habitat, both animal and land wise. The water resources available are already at a maximum determent. I respectfully request a no vote on any reduction in the size of the lots to 20,000 square feet. 2

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Ross Humphreys (HUMPHREYS)

Response to HUMPHREYS-1
The commenter states that he is very concerned about encroachment on the forest itself and is opposed to reducing the size of space for buildings. The 2020 Final EIR includes an Alternative Project that has increased the size of the lots from a minimum of 7,200 square feet to a minimum of 20,000 square feet.

Response to HUMPHREYS-2
The commenter respectfully requests a no vote on the 20,000 square feet lot size.

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Slowik, Matt - LUS

From: sandy ellis [fsellis67@gmail.com]
Sent: Monday, February 06, 2012 8:43 AM
To: Slowik, Matt - LUS
Subject: Moon Camp Project

Dear Mr. Slowik,

I am writing to oppose the change of zoning being considered for the Moon Camp Project located in Fawnskin. This change would be detrimental not beneficial to the public interest. There is NO public benefit. On the contrary an increase number of houses in this beautiful area would have significant and unavoidable impacts on water availability, biological resources, traffic, and aesthetics. There are already more homes for sale then there are buyers. Why build more unneeded homes and in the process destroy a sensitive plant area as well as an area where bald eagles love to be? 1

Most sincerely,
Sandra Ellis
PO Box 8542
Green Valley Lake, CA 92341
909 867-7115

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Sandra Ellis (ELLIS)

Response to ELLIS-1

The commenter opposes the change in zoning as not beneficial to the public interest and states that an increase in houses has significant and unavoidable impacts to water, biology, traffic, and aesthetics. The commenter is concerned about the impact to the sensitive plants and eagles. The 2020 Final EIR concludes that impacts to bald eagles will be significant but that all other impacts can be reduced to a level of non-significance.

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Slowik, Matt - LUS

From: Sandy Steers [karsten33@gmail.com]
Sent: Monday, January 23, 2012 12:20 PM
To: Slowik, Matt - LUS
Subject: thank you!!

Hi Matt,
Thank you thank you for the deadline extension on Moon Camp!!!
Very much appreciated!
Sandy

1

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Sandi Steers (STEERS)

Response to STEERS-1
The commenter thanks the County of San Bernardino for extending the deadline for comments.

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SECTION 4: ERRATA

The following are revisions to the Revised and Recirculated Draft Environmental Impact Reports (RRDEIRs), referred to as RRDEIR No. 1 and RRDEIR No. 2. These revisions are minor modifications and clarifications and do not change the significance of any of the environmental issue conclusions within the RRDEIRs. The revisions are listed by page number. RRDEIR text that is shown is indented underneath explanatory information. All additions to the text are underlined (underlined) and all deletions from the text are stricken (~~stricken~~).

4.1 - Revisions or Additions to the Text of RRDEIR No. 1 and RRDEIR No. 2

4.1.1 - Revisions or Additions to RRDEIR No. 1

Section 1.5 – Determination of the Lead Agency and Responsible Agencies

Page 1-10

Additional Responsible agency added to the bullet list provided:

- California Department of Forestry & Fire Protection (CAL FIRE)—Timber Harvesting Plan approval.

Section 4.2.12—Construction Mitigation

Page 4.2-31

Detail added to Mitigation Measure AQ-1.

AQ-1 Prior to construction of the project, the project proponent will provide a Fugitive Dust Control Plan that will describe the application of standard best management practices (BMPs) to control dust during construction. The Fugitive Dust Control Plan shall be submitted to the County and SCAQMD for approval and approved prior to construction. Best management practices will include, but not be limited to:

- For any earth moving which is more than 100 feet from all property lines, conduct watering as necessary to prevent visible dust emissions from exceeding 100 feet in length in any direction.
- For all disturbed surface areas (except completed grading areas), apply dust suppression in a sufficient quantity and frequency to maintain a stabilized surface; any areas which cannot be stabilized, as evidenced by wind driven dust, must have an application of water at least twice per day to at least 80 percent of the unstabilized area.
- For all inactive disturbed surface areas, apply water to at least 80 percent of all inactive disturbed surface areas on a daily basis when there is

evidence of wind-driven fugitive dust, excluding any areas that are inaccessible due to excessive slope or other safety conditions.
- For all unpaved roads, water all roads used for any vehicular traffic once daily and restrict vehicle speed to 15 mph.
- For all open storage piles, apply water to at least 80 percent of the surface areas of all open storage piles on a daily basis when there is evidence of wind-driven fugitive dust.
- Mass grading activities shall be limited to a maximum of 5 acres per day.

Page 4.2-31, 4.2-32

Mitigation Measure AQ-2 has been revised.

AQ-2 To reduce emissions from the construction equipment within the project site, the construction contractor will:

- ~~To the extent that equipment and technology is available and cost effective, the contractor shall u~~Use catalyst and filtration technologies on mobile construction equipment.
- All diesel-fueled engines used in construction of the project shall use ultra-low sulfur diesel fuel containing no more than 15-ppm sulfur, or a suitable alternative fuel.
- All construction diesel engines, which have a rating of 50 hp or more, shall meet the Tier II California Emission Standards for off-road compression ignition engines~~, unless certified by the contractor that such engine is not available for a particular use. In the event that a Tier II engine is not available, Tier I compliant or 1996 or newer engines will be used preferentially. Older engines will only be used if the contractor certifies that compliance is not feasible.~~
- Heavy-duty diesel equipment will be maintained in optimum running condition.

Section 4.4, Hydrology

Page 4.4-1

A detail has been added.

In addition, the discussion of groundwater and water supply is based on the Recommendations for Groundwater Monitoring, prepared by Geoscience Support Services, Inc., September 2004 (Appendix G.5), the Final Feasibility Study to Serve the Proposed Moon Camp Residential Development (TTM No. 16136), March 2007, Prepared by ALDA Engineering, Inc., as amended by 2011 update (Appendix G.2); the Moon Camp Well FP-Z Report, August 2008, prepared by California Collaborative Solutions, August 2008 (Appendix G.3); the "Water Supply Analysis," February 2009,

prepared by California Collaborative Solutions (Appendix C.5); and the "Water Supply Report," May 2009, prepared by California Collaborative Solutions (containing the Thomas Harder Groundwater Consulting Analysis and Big Bear DWP correspondence letter, May 2009) (Appendix C.6).

Page 4.4-8

A Water Quality Control Board Order number has been revised.

WQMP Requirements

The Santa Ana Regional Water Quality Control Board Order Number ~~R8-2002-0012~~ R8-2010-0036, NPDES Permit No. CAS618036 (Permit) requires post-construction BMPs to be implemented for new development and significant redevelopment projects, for both private and public agencies. A WQMP is then used to guide the development and implementation of a program to minimize the detrimental effects of urbanization on the beneficial uses of receiving waters, including effects caused by increased pollutants loads and changes in hydrology.

Page 4.4-9

Text has been amended to reflect an update in project circumstances with regard to MS4 permit.

~~The deadline for the Regional Board's update to the MS4 permit is February 29, 2008; however, as noted in Implementation Task 3.1, changes to the MS4 permit may not be necessary to address TMDL issues.~~

On January 29, 2010, the Regional Board adopted Order No. R8-2010-0036 (NPDES Permit No. CA5618036) as the new MS4 permit for San Bernardino County and incorporated municipalities therein. This permit expired on January 29, 2015. On August 1, 2014, San Bernardino County submitted a Report of Waste Discharge in compliance with the terms of the MS4 permit.

Page 4.4-10

Detail added with regard to the project's low impact design goals.

Site Design

Lots in the Proposed Alternative Project are proposed to be low density with stem wall construction, thereby reducing the area of construction. This criterion in planning reduces the overall footprint of construction and minimizes the imperviousness of each lot. The Proposed Project Alternative also proposes to include 5.73 acres of dedicated open space. Maximizing open space thereby minimizing impervious development will retain optimum on-site precipitation and

supplement natural recharge to the site's two ground water basins. These are important concepts guiding the projects low impact design goals.

Section 4.9, Utilities

Page 4.9-2

Text amended to describe update in circumstances with regard to water service provider.

~~Although~~ DWP has completed a Water Feasibility Study (Alda, 2007) and provided a conditional will serve letter to the Applicant. DWP will be the water provider to the project site. Because the majority of the project site, is outside of the DWP authorized service area as well as the City's Sphere of Influence. ~~As a result, DWP cannot provide water service without first complying with the provisions of Government Code Section 56133, which requires that cities receive Local Agency Formation Commission (LAFCO) annexation approval to provide new or extended services outside their jurisdictional boundaries, but within their spheres of influence,~~ DWP and County CSA 53C entered into an Outside Service Agreement for Potable Water Service dated November 17, 2015, to allow DWP to serve the project. San Bernardino County LAFCO approved the Agreement at its November 18, 2015 meeting.

Page 4.9-4 through 4.9-6

Text has been amended to reflect changes to water service alternatives.

4.9.4 - Water Service Alternatives

Although water service is not presently provided to the project site, the site is immediately adjacent to the jurisdiction of the DWP and ~~annexation to the DWP's authorized service area is one of three possible water service alternatives. DWP has conducted a Water Feasibility Study (Alda, 2007), and provided a conditional will serve letter to the Applicant. However, the majority of the project site is outside of the DWP authorized service area as well as the City's Sphere of Influence. DWP cannot provide water service without first complying with the provisions of Government Code Section 56133, which pertains to the LAFCO annexation process. In order for the DWP to provide water service to the project site and to own and operate the Proposed Alternative Project's water system, LAFCO would have to approve an expansion of the City of Big Bear Lake's Sphere of Influence (SOI) to include the entire existing DWP Water Service Area in Fawnskin as well as the entire project site. The developer would be required to construct the on-site and off-site facilities as described in the DWP's Water Feasibility Study (Alda, 2007). This is Water Service Alternative #1 (see below~~

~~for details).~~ existing DWP water distribution facilities currently providing potable water service to portions of the Fawnskin community.

~~Water Service Alternative #2 (see below for details) would not require LAFCO's approval and would not create the expansion of the City's Sphere of Influence around Fawnskin and the project site. Instead, County Service Area 53C (CSA 53C) would own and operate the water facilities within the project site and contract with the DWP for a water interconnection to the existing Fawnskin water system. The developer would be required to construct the same on-site and off-site facilities as described in the DWP's Water Feasibility Study (Alda, 2007).~~

~~Water Service Alternative #3 (see below for details) would not require LAFCO's approval and would not create the expansion of the City's Sphere of Influence around Fawnskin and the project site. Alternative #3 would involve the developer constructing an independent water system completely within the project site. The developer would construct the same on-site water lines as in Water Alternatives #1 and #2, and, in addition the required water reservoir and water booster station would be constructed by the developer on the project site (rather than constructing the off-site water facilities identified in the DWP's Water Feasibility Study). CSA 53C would own and operate this independent water system.~~

~~Water Service Alternative #1~~

According to the Water Feasibility Study prepared by Alda Engineering Inc. (Appendix G.2), water service to the project site could be provided from the DWP's Upper Fawnskin pressure zone (Water Feasibility Study, Appendix G.2, Alternative B). ~~However~~Because the project site is located outside of the DWP Service area and sphere of influence, DWP and County CSA 53C entered into an Outside Service Agreement for Potable Water Service dated November 17, 2015, whereby DWP and CSA 53C agreed that, due to the lack of potable water facilities operated by CSA 53C in the Fawnskin area, it was not economical for CSA 53C to be the water provider for the Moon Camp property and that it was more appropriate for DWP to be the water purveyor. LAFCO approved the Agreement at its November 18, 2015 meeting. However, for DWP to serve the project, significant transmission improvements in the Fawnskin system would be needed to provide fire flow to the project site. The closest DWP pipeline within the Upper Fawnskin system is a single six-inch-diameter pipeline located near the intersection of Flicker Road and Chinook Road, approximately 2,000 feet from the westerly boundary of the project site.

~~The Upper Fawnskin pressure zone has an operating hydraulic grade of 7,113 feet set by the high water level of the existing 0.25 million gallon Raccoon Reservoir. Based on this hydraulic elevation, static pressures within the project site would range from a low of 71 psi at the highest point in Lot 18 to 157 psi near the lake. Therefore, individual pressure regulators would be required for all lots with static pressures exceeding 80 psi. The future homeowners would install and fund the individual pressure regulators as required for specific lots.~~

The Water Feasibility Study provides two options (A and B) for expanding the existing Fawnskin Water System infrastructure. Option B has been chosen by DWP and the Applicant as the preferred Water Feasibility Study alternative for Water Service Alternative #1. In either case, the Applicant would install all common infrastructures, including fire hydrants, and would also install the water main lines within the project site. The water improvements will primarily be constructed within the rights-of-way of existing or proposed paved roads. The water service infrastructure required is as follows:

- 900 ft of 12-inch pipeline along Ridge Road from the intersection of Raccoon Drive south to tie to an existing 8-inch PVC pipeline on a private easement.
- 200 ft of 12-inch pipeline along private easement to connect Fawnskin Drive and Canyon Road.
- 650 ft of 12-inch pipeline along Canyon Road to Chinook Road.
- 600 ft of 12-inch pipeline along Chinook Road to Flicker Road.
- 500 ft of 12-inch pipeline along Flicker Road to Mesquite Drive.
- 400 ft of 12-inch pipeline along Mesquite Road to North Shore Drive.
- 250 ft of 12-inch pipeline along North Shore Drive to development westerly boundary.
- Refurbishing existing Cline Miller pump station to augment pumping capacity to approximately 300 gmp.
- 50 KW on-site emergency generators at the Cline Miller Reservoir.

Page 4.9-7 through 4.9-8

Text revisions with regard to the two options (Option A and B) have been provided in the Water Feasibility Study, and former Option 2 and Option 3 have been removed.

Currently there are three groundwater wells on-site (constructed by the project's property owner and developer), Wells FP2, FP3 and FP4. ~~Alternative #1 involves~~ As a

condition of obtaining water service to the project site, the project proponent will deed title to the wells FP2, FP3, and FP4 ~~being deeded~~ to the DWP at the time the tract map is recorded.

The ~~Water Feasibility Study provides two options (A and B) for expanding the existing Fawnskin Water System infrastructure. Option B has been chosen by DWP and the Applicant as the preferred Water Feasibility Study alternative for Water Service Alternative #1. In either case, the~~ Applicant would install all common infrastructures, including fire hydrants, and would also install the water main lines within the project site. The water improvements will primarily occur within existing paved roads. Nearby residents are not required to tie into the proposed DWP water system. The impacts related to the installation of the off-site and on-site water improvements would be temporary and are considered less than significant. See Exhibit 2-6 for the proposed water facilities and improvements.

~~Water Service Alternative #2~~

~~This Alternative assumes the City does not wish to expand its Sphere of Influence, or that LAFCO does not approve an expansion of the City of Big Bear Lake's Sphere of Influence to include the entire existing DWP Water Service Area in Fawnskin as well as the entire project site (Water Service Alternative #1). The existing County Service Area 53C (CSA 53C) is authorized to own and operate water systems, and currently CSA 53C encompasses the entire project site. No LAFCO action would be required for CSA 53C to own and operate the Proposed Alternative Project's Water System. Alternative #2 would include the developer constructing the on-site and off-site water facilities contained in the DWP's Water Feasibility Study (Alda, 2007); CSA 53C owning and operating the Proposed Alternative Project's On-site Water System (the three water wells and the water main lines); DWP owning and operating the water facilities constructed by the developer within the DWP's Fawnskin Water System; and CSA 53C contracting with the DWP for a water interconnect between the DWP's existing Fawnskin Water System and the Proposed Alternative Project's On-site Water System.~~

~~All of the water demand calculations for the Proposed Alternative Project, water system descriptions, and the Water Feasibility Study Option B described in Water Service Alternative #1, apply to Water Service Alternative #2.~~

~~The water improvements for Water Service Alternative #2 would primarily occur within existing paved roads. The impacts related to the installation of the off-site~~

~~and on-site water improvements would be temporary and are considered less than significant. See Exhibit 2-6 for the proposed water facilities and improvements.~~

~~Water Service Alternative #3~~

~~Instead of constructing the off-site water facilities (within the Fawnskin Water System) identified in the DWP's Water Feasibility Study Option B (Alda, 2007, which is the basis for Water Service Alternatives #1 and #2, above), the Proposed Alternative Project's developer would construct an on-site reservoir (238,600 gallons) and an on-site booster station capable of providing the daily water supply flow and the required 1,750 gallons per minute fire flow. The reservoir and booster station would be sized based upon the same demand calculations contained in the Water Feasibility Study and Water Service Alternatives #1 and #2:~~

- ~~Average Day Demand (ADD) = 8.68 gpm.~~
- ~~Maximum Day Demand (MDD) = 15.27 gpm;~~
- ~~Fire Flow = 1,750 gpm with a 2 hour duration;~~
- ~~Operational Storage = 30% of MDD (15.27 gpm) = 6,600 gallons;~~
- ~~Emergency Storage = 100% of MDD (15.27 gpm) = 22,000 gallons;~~
- ~~Fire Flow Storage for 1,750 gpm (2 hour duration) = 210,000 gallons; and~~
- ~~Total Storage Requirement per the Alda Water Feasibility Study = 238,600 gallons.~~

~~The developer would also construct the same on-site (within the project site) water facilities (water main lines, fire hydrants, etc.) identified in the Alda Water Feasibility Study. Existing water wells FP2 and FP4 would be connected to the on-site water system and pump their water into the 238,600 gallon on-site reservoir. The on-site booster station would produce the Average and Maximum Daily Demand flows (8.68 gpm and 15.27 gpm) and the Fire Flow of 1,750 gpm for the 2-hour duration. The booster station would include an emergency electrical generator to allow the station to operate during a power outage.~~

~~The water improvements for Water Service Alternative #3 will primarily occur within the Proposed Alternative Project's paved roads and at the Proposed Alternative Project's reservoir site. The construction of the reservoir would include grading an approximately 75-foot-diameter pad for the reservoir. The impacts related to the installation of the on-site water improvements would be temporary and are considered less than significant.~~

Page 4.9-15

Clarification has been provided on DWP as water purveyor in Mitigation Measure U-1b and U-1c.

U-1b Pumping and extraction of groundwater shall be limited to 9 acre-feet per year for Well FP-2, 0 acre-feet per year for Well FP-3, and 5 acre-feet per year for Well FP-4. If ~~the water purveyor~~ DWP desires to extract groundwater from Well FP-2 in excess of 9 acre-feet per year, the purveyor shall conduct an independent environmental analysis and consider potential impacts at that time.

U-1c The grant deeds transferring ownership of Wells FP-2, FP-3 and FP-4 shall include the pumping and extraction limitations included in Mitigation Measure U-1b. The grant deeds shall also state that ~~the water purveyor~~ DWP, on January 1st of each year, shall report the amount of the prior year's annual groundwater production from Wells FP-2, FP-3 and FP-4 to the County Planning Department and the County Health Department.

Section 5: Cumulative Impacts

Page 5-2

Table 5-1, Cumulative Project List was updated.

Table 5-1: Cumulative Project List

Project Type	Name/Area	Description	Number of Units/Size	Population
County of San Bernardino				
Marina Point	Okovita	SFR	120	276
TT 17670	Sobczyk/Fawn	SFR	22	51
TT 17217 &TT17022	Stinson, Lisa A Moonridge	SFR	53	122
TPM 19262	Musto/Baldwin	SFR	4	9
TT 18806	Burtner/Erwin	SFR	18	41
Conv Store/Gas Station/Residence	Munem Maida	Conv Store/Gas Station/Residence	1	2
Total (County of San Bernardino)			**218 SFR**	**501**
City of Big Bear Lake				
CUP 2000-52	The Club	Timeshare	61	140
TT 16611	Shadow Mtn	SFR	8	18
TT 18580	Morgan Pines	SFR	23	53
CUP 2008-319	Bay Meadows	Conf Center	11,500 s.f.	—

Table 5-1 (cont.): Cumulative Project List

Project Type	Name/Area	Description	Number of Units/Size	Population
Relocation	Moonridge Zoo	Animal Park	—	—
618 Pineknot	N.P. Fudge	2 apartments	2	5
Total (City of Big Bear Lake)			**94 SFR**	**216**
TOTAL			**312 SFR**	**717**

If approved and constructed, these projects could introduce an additional 866 residents to the Big Bear area. This is down significantly from the 2,210 residents and transient population that would have been introduced to the area under the cumulative project list utilized for the environmental analysis of the Project. The cumulative impacts analysis in the Project EIR actually overstates cumulative impacts but was not revised despite the revised cumulative project list.

4.1.2 - Revisions or Additions to RRDEIR No. 2

Section 1: Project Description

Page 1-10

Additional information regarding Alternative Project Characteristics has been added.

The 2011 Alternative Project proposes 6.2 acres of open space/conservation/Neighborhood Lake Access within the Project site. The 2011 Alternative Project also includes a 55-slip marina. The marina parking lot also includes some open space for the preservation of existing trees; however, because of the development of the parking lot, the lot would not be considered Open Space. The main differences between the 2010 Alternative Project and the 2011 Alternative Project that is the subject of this Revised and Recirculated Draft EIR No. 2 and are summarized below:

- Redesigned Residential Lot Layout. The 2011 Alternative Project still reflects development of 50 residential lots on approximately 62.43 acres. The 2011 Alternate Project does not increase development intensity but merely proposes a revised lot configuration. Lots 1-3, which were located north of Street A on the western-most portion of the Project site have been shifted east and will be located in an area previously occupied by a portion of Lot A which was designated as Open Space Conservation Easement. (Please see Exhibit 1-4)
- Creation of Open Space Lot H. To compensate for the loss of a portion of Lot A, previously designated as Open Space Conservation Easement, and in response to

the Supplemental Focused Special Status Plant Species Survey (August 29, 2010) which identified significant occurrences of Ashy-Gray Indian Paintbrush in the area previously designated for development, a 1.98 acre portion of the Project site previously occupied by Lots 1-3 will now become lettered Lot H which, like Lot A, is designated Open Space/Conservation Easement. Lot A and Lot H together comprise 4.84 acres of occupied Ashy-Gray Indian Paintbrush that will be preserved in perpetuity.

Page 1-15

Information with regard to water service options and infrastructure has been edited.

Water Service Options and Infrastructure

~~There are currently three (3) separate water service options for the 2011 Alternative Project. Under Alternative #1, significant improvements to~~ Water Service for the Project site would be provided by the Big Bear Department of Water and Power (DWP). Although the project site is partially located outside of the DWP Service area and sphere of influence, the DWP and County CSA 53C entered into an Outside Service Agreement for Potable Water Service dated November 17, 2015, whereby the DWP and CSA 53C agreed that, because of the lack of potable water facilities operated by CSA 53C in the Fawnskin area, it was not economical for CSA 53C to be the water provider for the Moon Camp property and that it was more appropriate for the DWP to be the water purveyor. LAFCO approved the Agreement at its November 18, 2015 meeting. For the DWP to provide potable water to the project site, significant improvements to the upper Fawnskin pressure zone are necessary. ~~to provide water service to the site.~~ The three ground water production wells located within the Project site would be deeded to the DWP at the time the tract map is recorded. ~~Annexation to the DWP's authorized service area is required for DWP to be the water service provider.~~ DWP has conducted a Water Feasibility Study (Alda 2007), and provided a conditional will serve letter to the Applicant. ~~However, the majority of the Project site is outside of the DWP authorized service area as well as the City's Sphere of Influence. DWP cannot provide water service without first complying with the provisions of Government Code Section 56133, which pertains to the Local Area Formation Commission (LAFCO) annexation process. In order for the DWP to provide water service to the Project site and to own and operate the 2011 Alternative Project's water system, LAFCO would have to approve an expansion of the City of Big Bear Lake's Sphere of Influence to include the entire existing DWP Water Service Area in Fawnskin as well as the entire Project site.~~ The developer would be required to construct the on-site and off-site facilities as described in the DWP's Water Feasibility Study (Alda 2007), as amended by the 2011 update, as discussed below.

Page 1-16

Information with regard to water service options and infrastructure has been edited.

~~Water Service Alternative #2 (see Section 4.9 of the Revised and Recirculated Draft EIR No. 1 for details) would not require LAFCO's approval and would not create the need for expansion of the City's Sphere of Influence around Fawnskin and the project site. Instead, County Service Area 53C (CSA 53C) would own and operate the water facilities within the project site and contract with the DWP for a water interconnection to the existing Fawnskin water system. The developer would be required to construct the same on-site and off-site facilities as described above.~~

~~Under Water Service Alternative #3 (see Section 4.9 of the Revised and Recirculated Draft EIR No. 1 for details), instead of constructing the off-site water facilities (within the Fawnskin Water System) identified in the DWP's Water Feasibility Study Option B (Alda, 2007, which is the basis for Water Service Alternatives #1 and #2, above), water service would be provided entirely from an onsite water supply, storage and distribution system. Water would be extracted from the onsite water wells; the 2011 Alternative Project would require construction of an on-site aboveground water tank (238,600 gallons) and an on-site booster station capable of providing the daily water supply flow and the required 1,750 gallons per minute fire flow. The water tank and booster station would be sized based upon the same demand calculations contained in the Water Feasibility Study and Water Service Alternatives #1 and #2. Water Service Alternative #3 would not require LAFCO's approval and would not require the expansion of the City's Sphere of Influence around Fawnskin and the project site. The developer would also construct the same on-site (within the Project site) water facilities (water main lines, fire hydrants, etc.) identified in the Alda Water Feasibility Study necessary to transmit water to the developed lots within the 2011 Alternative Project. Existing water wells FP2 and FP4 would be connected to the on-site water system and pump their water into the 238,600 gallon on-site reservoir. The on-site booster station would produce the Average and Maximum Daily Demand flows (8.68 gpm and 15.27 gpm) and the Fire Flow of 1,750 gpm for the 2-hour duration. The booster station would include an emergency electrical generator to allow the station to operate during a power outage. The water improvements for Water Service Alternative #3 will primarily occur within the 2011 Alternative Project's paved roads and at the 2011 Alternative Project's water tank site. The construction of the water tank would include grading of an approximately 75-foot-diameter pad for the reservoir. CSA 53C would own and operate this independent water system.~~

Section 2, Biological Resources

Page 2-1

Additional bullet point added:

- Survey of Ashy-Gray Indian Paintbrush Moon Camp Tentative Tract 16136, Timothy Krantz Environmental Consulting (2016) (2020 Final EIR Appendix K)

Page 2-16

A spelling error has been corrected.

As outlined within Table 2-2, eighty-one (81) special status plant species are known to occur in the Project region, 30 of which occur or have a moderate or higher potential to occur on the Project site. In addition, six of these special status plant species have been observed on the Project site. A brief description of these special status plant species are described ~~bellow~~below:

Page 2-17

Detail has been added with regard to ashy-gray Indian paintbrush habitat, conservation areas, and habitat preservation.

Findings and conclusions of the Supplemental Focused Special Status Plant Species ~~Survey~~ Surveys conducted by Dr. Krantz (June 29, 2008) (August 29, 2010) as confirmed by his June 27, 2016 update (2020 Final EIR Appendix K) with respect to the Ashy-Gray Indian Paintbrush at the Project site are described below. Altogether, the 2010 Krantz Survey concluded there were 7.71 acres of Ashy-Gray Indian Paintbrush habitat located within the boundaries of the project site, 4.84 acres of which are located within the Lot A and Lot H Conservation Areas.

Open Space Lot A

Krantz conducted a discrete count of the Ashy-Gray Indian Paintbrush occurrences on Lot A by systematically walking the surrounding area of the knoll at this location. Altogether, a total of approximately 230 individual Ashy-Gray Indian Paintbrush occurrences were identified within the boundaries of Lot A, a 3.40-acre open space area.

Open Space Lot H

The newly-proposed Lot H Open Space Conservation Easement was created to protect the high densities of Ashy-Gray Indian Paintbrush occurring in this area. Lot H is approximately 1.98 acres in area. The highest concentration of these plants extends in a broad opening in the Jeffrey pine woodland, in association with Wright's matting buckwheat. A total of approximately 4,665 Ashy-Gray Indian Paintbrush occurrences were estimated to occur in this area based on a combination of discrete counts and a

belt transect through the middle of the highest density area. Altogether, a total of 5,567 Ashy-Gray Indian Paintbrush plants were estimated to occur on the Moon Camp property. Permanent protection of Lot H results in preservation of 84 percent (4,665 plants of 5,567 plants) of the total Ashy-Gray Indian Paintbrush plants on-site. Combined, Lot A and Lot H comprise a total of 4.84 acres of occupied Ashy-Gray Indian Paintbrush habitat that will be permanently preserved.

Page 2-19

Detail has been added with regard to ashy-gray Indian paintbrush habitat, conservation areas, and habitat preservation.

Redesign of the lot layout, as reflected in the 2011 Alternative Project, results in a significant increase in Ashy-Gray Indian Paintbrush conservation. On an acreage basis, the project will impact approximately 2.87 acres of the 7.71 acres of habitat. Creation of Lot A and Lot H preserves 4.84 acres of habitat, resulting in an on-site mitigation ratio of 1.68:1. With permanent preservation of the 10-acre Dixie Lee Lane Property mitigation for impacts to Ashy-Gray Indian Paintbrush habitat is 5.04:1. Of the 5,567 Ashy-Gray Indian Paintbrush plants determined to occur on site through the updated plant surveys, 4,895 plants will be permanently protected within Lot A and H, representing 88 percent of the total number of Ashy-Gray Indian Paintbrush plants within the proposed Project site. Of the remaining Ashy-Gray Indian Paintbrush plants on private Lots, plants within Lots 1, 47, 49, and 50 are all within the rear Lot building setbacks, as well as 20 plants on Lot 4, for a total of 127 plants.

Table 2-3 has been replaced as follows:

~~Table 2-3: Summary of Ashy-Gray Indian Paintbrush Occurrence on the Moon Camp Site~~

~~Lot Number~~	~~Total Plants~~
~~Lot 1~~	~~45~~
~~Lot 2~~	~~150~~
~~Lot 3~~	~~175~~
~~Lot 4~~	~~90~~
~~Lot 5~~	~~30~~
~~Lot 47~~	~~50~~
~~Lot 49~~	~~9~~
~~Lot 50~~	~~3~~
~~Lot A~~	~~230~~
~~Lot F~~	~~80~~

~~**Table 2-3 (cont.): Summary of Ashy-Gray Indian Paintbrush Occurrence on the Moon Camp Site**~~

~~Lot Number~~	~~Total Plants~~
~~Road ROW*~~	~~40~~
~~Lot H~~	~~4,665~~
~~Total~~	~~5,567~~

~~Source: Supplemental Focused Special Status Plant Species Survey (August 29, 2010).~~
~~* ROW = Right of Way.~~

Table 2-3: Summary of Ashy-Gray Indian Paintbrush Occurrence, Impacts, and Conservation on the Moon Camp Site

Lot Designation	Habitat (acres)	Number of Plants	Impacts		Conservation	
			Acres	Individual Plants	Acres	Individual Plants
Lot H/A	4.84	4,895	-	-	4.84	4,895
Roadway	0.5	40	0.5	40		
Lot F	0.14	80	0.14	80		
Lots 1-5	2.00	490	2.00	490		
Lot 47/48	0.11	50	0.11	50		
Lot 49	0.01	9	0.01	9		
Lot 50	0.11	3	0.11	3		
Dixie Lee Lane	-	-	-	-	10.0	21
Totals	**7.71**	**5,567**	**2.87**	**672**	**14.48**	**4,916**

Source: ELMT. 2018. Technical Review of the Biological Database for the Moon Camp Project Site. May 23, 2018. Attachment A (2020 Final EIR Appendix I).

Page 2-44, 2-45

Detail about soil conditions has been added.

Special Status Plant Species Known to Occur on the Project Site

One Federally-listed Threatened and CNPS List 1B species, Ashy-Gray Indian Paintbrush; and five CNPS List 1B species, Parish's rock cress, Big Bear Valley woollypod, silver-haired ivesia, purple monkeyflower, and Bear Valley phlox, were observed on the Project site during the 2002, 2007, 2008, ~~and~~ 2010 and 2016 (see 2005 Final EIR Appendix 15.6; RRDEIR No. 1 Appendix B; RRDEIR No. 2 Appendix A; and 2020 Final EIR Appendix J, K) ~~Supplemental Focused Special Status Plant Species Survey~~. The surveys identified an herbaceous layer of Wright's matting buckwheat

(in the western half of the Project site) and found inclusions of Ashy-Gray Indian Paintbrush and Parish's rock cress throughout an approximate 18.01-acre area of open Jeffrey pine forest. Silver haired ivesia was found to be concentrated entirely within the Project site's mapped pebble plain ~~habitat~~ like soil conditions. Bear Valley woollypod was found in patches scattered throughout Jeffrey pine forest habitat on the Project site. Purple monkeyflower was found to be widely distributed on the pebble plain-like soils conditions in the conservation area, with a small portion of the population extending down the draw to the east into the southern half of proposed Lot 50. Finally Bear Valley phlox was found to be distributed in the open black oak woodland and under Jeffrey pines.

Development of the 2011 Alternative Project has the potential to significantly impact the aforementioned special status plant species. The majority of occurrences of these species exist in the western portion of the project site. In addition to protecting the most exemplary and best quality habitat on-site (located within Lot A and the newly-proposed Lot H Open Space Conservation Easement), all five of the CNPS List 1B status species observed on-site will be protected through implementation of Mitigation Measures (MMs) BR-1b, BR-1d and BR-12, which provide for the establishment and management of a Conservation Area that encompasses the location of these plants. Additionally, the 10-acre Dixie Lee Lane parcel provides additional habitat for these species.

Page 2-45

Information about ashy-gray Indian paintbrush preservation with open space creation has been added.

Ashy-Gray Indian Paintbrush

As concluded within the Supplemental Focused Special Status Plant Species Survey (August 29, 2010), there are approximately 7.71 acres of Ashy-Gray Indian Paintbrush habitat on the project site, of which 4.84 acres would be permanently protected through the creation of open space Lot A and Lot H. On an occurrence basis, there are approximately 5,567 Ashy-Gray Indian Paintbrush occurrences are located within the proposed Project site. Of the 5,567 occurrences, 4,895 will be permanently protected within the Open Space Conservation Easement of Lot A and H, representing 88 percent of the total occurrences of Ashy-Gray Indian Paintbrush within the proposed Project site. Of the remaining Ashy-Gray Indian Paintbrush plants within the boundaries of private Lots, plants within Lots 1, 47, 49, and 50, are all within the rear Lot building setbacks, as well as 20 plants on Lot 4, for a total of 127 plants.

Page 2-45

Detail with regard to Ashy-Gray Indian Paintbrush has been added.

The new Lot 3 contains approximately 175 plants. Lot 4 contains approximately 70 plants to the front-center of the Lot, and another 20 plants to rear of the Lot, within the required building setback, for a total of approximately 90 plants; and Lot 5 contains approximately 30 plants and another approximately 40 Ashy-Gray Indian Paintbrush plants are in the road right-of-way across the front of Lot 5. Well Site Lot F and the associated access road contain approximately 80 plants. In total, the 2011 Alternative Project will impact approximately 672 occurrences of Ashy-Gray Indian Paintbrush occupying approximately 2.87 acres. Based on the foregoing, the reconfiguration of the 2011 Alternative Project and creation of permanent conservation easements covering the areas designated as Lot H and Lot A will permanently conserve approximately 88 percent of the Ashy-Gray Indian Paintbrush occurrences on the Project site (4,895 occurrences conserved, compared to 672 impacted occurrences). This onsite conservation of Ashy-Gray Indian Paintbrush occurrences results in mitigation for 2011 Alternative project impacts at more than a 7:1 ratio. <u>On an acreage basis, the project will mitigate impacts to the Ashy-Gray Indian Paintbrush on-site at a 1.68:1 ratio.</u>

Additionally, Mitigation Measure BR-1a requires permanent conservation of the 10-acre, off-site, Dixie Lee Lane parcel that acts as further mitigation for impacts to the ashy-gray Indian paintbrush. These 10 acres of pebble plain are private land located at the northern terminus of Dixie Lee Lane in the Sugarloaf area of Big Bear Valley. The 10 acres are fenced and exhibit very high densities of the two indicator species (*Arenaria ursina* and *Eriogonum kennedyi austromontanum*). Implementation of Mitigation Measure BR-1a will conserve the high quality pebble plain that is one of the best remaining examples of pebble plain habitat in private ownership and will protect the high density of pebble plain soil conditions. As indicated in the Supplemental Focused Special Status Plant Species Survey (August 29, 2010) performed by Dr. Krantz, the 10-acre parcel comprises habitat that can support the Ashy-Gray Indian Paintbrush and, in fact, during the survey, multiple occurrences of this plant species were observed. Accordingly, in addition to formal conservation of 88 percent of the Ashy-Gray Indian Paintbrush occurrences on the Project site, through conservation easements covering Lot H and Lot A, permanent preservation of the 10-acre Dixie Lee property will provide further mitigation for impacts to the Ashy-Gray Indian Paintbrush species. With the preservation of the Dixie Lee Lane property, the 2011 Alternative Project will permanently set aside <u>14.48</u>acres of

Ashy-Gray Indian Paintbrush occupied habitat. ~~On an acreage basis~~ With the inclusion of the Dixie Lee Lane property, the 2011 Alternative Project is mitigating impacts on an approximately ~~10:1~~ 5:1 basis.

The on-site preservation of 88 percent of Ashy-Gray Indian Paintbrush occurrences and over 60 percent of the habitat acreage as well as implementation of Mitigation Measures BR-1a through BR-1d will reduce impacts to the Ashy-Gray Indian Paintbrush to less than significant levels.

Page 2-47

Additional detail added for Special Status Plant Species occurring on the Project Site.

According to the Supplemental Focused Special Status Plant Species Survey conducted by Dr. Krantz (2008), ~~no endangered threatened, or~~ five special status plant species were identified on the Moon Camp property~~, and the potential for any occurrence of such species is considered to be extremely low. In addition, impacts to CNPS List 1B or 2 species special status plants, not listed as threatened or endangered (Section IV. B.4) do not meet the County's CEQA threshold for a potentially significant impact.~~ Special status plant species found by Dr. Krantz on the project site included: Parish's rock cress, Bear Valley phlox, purple monkeyflower, and fuzzy rat-tail. The other potentially four occurring Pebble Plain special status plant species (Bear Valley sandwort, southern mountain buckwheat, San Bernardino Mountains dudleya, and Baldwin Lake linanthus) were not observed despite favorable conditions during both surveys and are presumably absent.

None of the five listed or special status Montane meadow plant species were identified on-site. The shoreline habitat was determined to be highly disturbed and ruderal in nature. The area did not support a viable Montane meadow habitat capable of supporting listed or special status plant species.

A search of the yellow pine habitat, particularly areas with rocky soils or outcrops, identified one of the three CNPS List 1B plant species (Bear Valley Woollypod) as occurring on the Project site. The other two potentially occurring special-status plant species (Big Bear Valley milkvetch and southern yellow jewelflower) were not observed and are presumed absent.

The majority of special-status species observed on-site are confined to the western portion of the Project site. The creation of the Conservation Areas (Lot A and Lot H) provide conservation of occurrences and habitat for these species. Additionally,

implementation of Mitigation Measure BR-1a will permanently preserve an additional 10 acres of habitat for the special status species. Therefore, impacts in this regard will be less than significant.

Page 2-47

Additional detail added regarding Bald Eagles.

Bald Eagle. The bald eagle was taken off the federal list of threatened species, but remains on the State endangered species list. Small wintering populations of bald eagle often occur in scattered mountain locations in the region. Big Bear Lake supports the largest wintering population of bald eagle in southern California and may include as many as 30 individuals in peak years. The bald eagle was observed using several trees on the Project site for perch and roost locations. A records search also demonstrated that some of the most utilized perch and roost trees on the north shore of the lake are located on the Project site. Seven of the identified perch trees are adjacent to the Big Bear Lake's shoreline. Perch trees are used for resting, for monitoring their territories for predators or other eagles, and for hunting. Steenhof (1978) investigation into bald eagle perch determined that proximity to a food source is most important factor in diurnal perch selection by bald eagles. Optimal perch trees are typically tall with an open growth structure that provide line-of sight-opportunities and that are near water (Steenhof, 1978 and Stalmaster and Newman 1979). In their study they also found that bald eagles used artificial perch trees more than would be expected from occurrence alone. In their study, the artificial perch trees provided the closer proximity to water, were generally taller than the native trees and had a greater open growth structure for line-of-site opportunities. Given artificial and native trees that provided comparable characteristics, bald eagle, are using artificial and native trees similarly. The study's conclusion was that artificial perch trees may be an effective tool as both a mitigation measure and a management strategy. For Moon Camp, the use of artificial perch trees that proximate the existing perch trees in terms of size, structure and proximity to the shoreline would compensate for the loss of native perch trees. It is recommended that the existing perch trees be surveyed for their overall health and expected longevity and that a plan for replacement be developed from this information. Replacement trees would be installed in advance to the projected loss of a perch tree to ensure there is no loss of perching opportunities.

It is also important to note that bald eagle populations have expanded in recent years, even as increasing human presence and activity near nesting and perching

sites has increased. Bald eagle populations have increased in face of increasing human recreation and development along shorelines within prime eagle habitat. This combined growth in eagle populations and human populations have resulted in more frequent interactions with humans (Johnsgard 1990). Due to this increasing overlap with human populations and human activities, bald eagles have habituated to presence of humans. Observations of eagle populations suggest that many eagles are more accepting of eagle activities near nests and wintering sites (Watson et al. 1999, Anthony 2001, and Millsap et al. 2004). A recent newspaper article in The Wash Post by Gregory Lee Sullivan (February 29, 2016) quoted Kevin McGowan of the Cornell Lab of Ornithology as saying "the main thing is that they (bald eagles) just don't really care as much about people anymore" and are now found nesting in residential areas. He concluded that changes in the behavior of the bald eagle are the results of laws that protect the bird and have helped the species recover after nearly dying out in the early 1960s. The number of bald eagles breeding pairs in the lower 48 contiguous states has increased from a low of 487 in 1963 to 9,789 in 2006. As indicated above, the species was removed by USFWS from the endangered species list in 2007. Given that the Moon Camp area is not used by nesting pairs and only supports overwintering eagles and given the proposed mitigation measure for maintaining perch trees, the presence of 50 new homes in rural residential community of Fawnskin will not adversely affect foraging behavior or other roosting behavior of the overwintering bald eagles. ~~Given the limited distribution of wintering populations of bald eagles in southern California, removal of these trees and/or construction of uses in proximity to trees are considered a significant impact. Therefore,~~ However, any construction activities in proximity to the identified perch and most trees are considered by the County as a significant impact under CEQA. Two pair of bald eagles were documented nesting at Big Bear during Spring/Summer 2007. As the bald eagle has recently nested at Big Bear, ongoing surveys of the Project site during breeding season is recommended to verify the continued absence of nesting bald eagles on the Project site.

Mitigation measures BR-4, B-6 and B-7 will reduce identified impacts to the bald eagles potentially occurring on the Project site. Although Mitigation Measures BR-4, B-6 and B-7 will reduce impacts to the bald eagle, implementation of the 2011 Alternative Project will directly impact eagle perch locations. Based on the County of San Bernardino criteria for determining impacts to bald eagles, any removal of perch trees or human activity resulting in light and/or noise impacts are considered a significant impact under CEQA. This threshold is so restrictive that there is no reasonable configuration to the 2011 Alternative Project that could avoid a

significant impact to the bald eagle. Therefore, further project modifications would not avoid or substantially reduce the identified impacts to bald eagles. Therefore, impacts in this regard will remain significant and unavoidable.

Page 2-56

Discussion of cumulative impacts to Special Status Plant Species is added.

Six listed threatened or endangered species could potentially occur on the Project site. These include bird's foot checkerbloom (endangered), San Bernardino bluegrass (endangered), California dandelion (endangered), Big Bear Valley sandwort (threatened), southern mountain buckwheat (endangered), Ashy-Gray Indian Paintbrush (threatened) and slender-petalled thelypodium (endangered). In addition, 26 CNPS List 1B or 2 species could potentially occur on the Project site. According to the Supplemental Focused Special Status Plant Species Survey conducted by Dr. Krantz (2008), only the Ashy-Gray Indian Paintbrush was observed on-site. ~~no endangered, threatened, or special-status plant species were identified on the Moon Camp property, and the potential for any occurrence of such species is considered to be extremely low.~~ Special status plant species found by Dr. Krantz on the project site included: Parish's rock cress, Bear Valley phlox, purple monkeyflower, and fuzzy rat-tail. The other potentially four occurring Pebble Plain special status plant species (Bear Valley sandwort, southern mountain buckwheat, San Bernardino Mountains dudleya, and Baldwin Lake linanthus) were not observed despite favorable conditions during both surveys and are presumably absent.

None of the five listed or special status Montane meadow plant species were identified on-site. The shoreline habitat was determined to be highly disturbed and ruderal in nature. The area did not support a viable Montane meadow habitat capable of supporting listed or special status plant species.

A search of the yellow pine habitat, particularly areas with rocky soils or outcrops, identified one of the three CNPS List 1B plant species (Bear Valley woollypod) as occurring on the Project site. The other two potentially occurring special-status plant species (Big Bear Valley milkvetch and southern yellow jewelflower) were not observed and are presumed absent.

All but one, Bear Valley phlox, of the observed special-status species are confined to the western portion of the Project site. In addition, impacts to CNPS List 1B or 2 species special status plants, not listed as threatened or ~~end angered~~ endangered (Section IV. B.4.) would generally not meet the CEQA threshold for mandatory

findings of significance. As indicated previously, on-site and off-site mitigation is sufficient to mitigate impacts to the Ashy-Gray Indian Paintbrush to less than significant levels both on a Project specific and cumulative basis. Impacts to other special status plant species is similarly reduced to less than significant levels. ~~Therefore, impacts in this regard will be less than significant.~~ When considered in connection with the development of the cumulative projects, the impacts of the 2011 Alternative Project on special status plant species are less than significant.

Page 2-57

Additional detail for Mitigation Measure BR-1a (Special Status Plants and Plant Communities) has been added.

Special Status Plants and Plant Communities

BR-1a Prior to the initiation of clearing or grading activities on the Project site, a conservation easement shall be placed upon the 10-acre Dixie Lee Lane property. The conservation easement shall be in favor of a ~~qualified~~ California Department of Fish and Wildlife approved conservation entity and shall be recorded in the San Bernardino County Recorder's Office. The easement shall provide for the continued protection and preservation of the property through development of a Long-Term Management Plan (LTMP). The LTMP shall provide for the preservation, restoration, and enforcement of the Conservation Areas so that each area is maintained, and restored where needed, to its natural condition. The LTMP will also include documentation of baseline conditions, any needed site preparation, anticipated restoration/enhancement activities, a biological monitoring program, the creation of a set of success criteria for managing the site, anticipated maintenance activities, an annual reporting process, and a set of contingency or adaptive management measures to be implemented in case success criteria are not being met; to ensure that the implementation of the LTMP is fully funded, a Property Action Report (PAR) will be prepared that will document costs for site security, maintenance activities, site preparation, restoration/enhancements activities, biological monitoring, contingency measure and annual reporting. The costs identified in the PAR will be used to develop a non-wasting endowment that will ensure all costs will be available to establish the site, conduct any needed restoration and enhancements, and to fund reoccurring annual cost needed to manage the site in perpetuity. The easement shall, at a minimum, restrict all use of the property that has the potential to impact the quality of pebble plain soils

and other valuable biological habitat, including the occurrences of the Federally Threatened Ashy-Gray Indian Paintbrush. The property shall be fenced and signs shall be placed on the fencing indicating the sensitive nature of the property habitat and warning that any entry would be prosecuted as a trespass. ~~Project proponent shall also create a perpetual, non-wasting endowment for the management and preservation of the mitigation property. The management entity will be approved by the CDFG.~~

Page 2-57

Additional detail for Mitigation Measure BR-1b has been added.

BR-1b Prior to the initiation of clearing or grading activities on the Project site, the 9.1 ~~5.38~~-acre on-site conservation easements covering Lots A, B, C, D and H ~~(including Lot A and Lot H)~~ shall be established. The conservation easement shall be in favor of a California Department of Fish and Wildlife approved qualified conservation entity and shall be recorded in the San Bernardino County Recorder's Office. The easement shall provide for the continued protection and preservation of the ~~property~~ American Bald Eagle and Rare Plant habitat through development of a Long-Term Management Plan (LTMP). The LTMP shall provide for the preservation, restoration, and enforcement of the Conservation Areas so that each area is maintained, and restored where needed, to its natural condition. The LTMP will also include documentation of baseline conditions, any needed site preparation, anticipated restoration/enhancement activities, a biological monitoring program, the creation of a set of success criteria for managing the site, anticipated maintenance activities, an annual reporting process, and a set of contingency or adaptive management measures to be implemented in case success criteria are not being met; to ensure that the implementation of the LTMP is fully funded, a Property Action Report (PAR) will be prepared that will document costs for site security, maintenance activities, site preparation, restoration/enhancements activities, biological monitoring, contingency measure and annual reporting. The costs identified in the PAR will be used to develop a non-wasting endowment that will ensure all costs will be available to establish the site, conduct any needed restoration and enhancements, and to fund reoccurring annual cost needed to manage the site in perpetuity. The easement shall, at a minimum, restrict all use of the property that has the potential to impact Bald Eagle perch trees, the quality of ~~pebble plain soils and other~~ valuable biological habitat, including the

occurrences of the Federally Threatened ashy-gray Indian paintbrush. The property shall be fenced and signs shall be placed on the fencing indicating the sensitive nature of the property habitat and warning that any entry would be prosecuted as a trespass. ~~The easement shall provide for the continued protection and preservation of the property. The easement shall, at a minimum, restrict all use of the property that has the potential to impact the occurrences of the Federally Threatened Ashy-Gray Indian Paintbrush. Project proponent shall also create a perpetual, non-wasting endowment for the management and preservation of the mitigation property. The management entity will be approved by the CDFG.~~

Page 2-57

Additional detail added to Mitigation Measure BR-1c.

BR-1c The Project Applicant shall take the following actions to further ensure the permanent preservation of the Conservation Areas: ~~(Lot A and Lot H):~~

- Except for access by residents to Lot B & C between April 1 and December 1, r~~R~~estrict access by pedestrians and motor vehicles to the Conservation Areas. The Conservation Areas shall be secured through installation of fencing or other barriers to prevent access to Conservation Areas. Barriers shall be installed prior to commencement of any construction activities on-site. The Project Applicant shall also include provisions in the CC&Rs for the Project instituting penalties to residents who violate the restrictions and cause any damage to the protected plant habitat~~.~~ and Bald Eagle perch trees.
- Include enforcement provisions in the CCR's ~~allowing~~ requiring the Homeowner's Association, individual resident within the project, the Conservation Entity, and/or County of San Bernardino to enforce any violation of the provisions intended for the protection of sensitive plant species located within Lot A and Lot H.
- Install appropriate signage identifying Conservation Areas and the sensitive nature of such areas on the Project site and that access is prohibited. The Conservation Areas shall be monitored on a regular basis by the Conservation Entity.
- Prohibit use of invasive plant species in landscaping. Each lot owner shall be given a list of prohibited invasive plant species upon purchase of lot with the parcel. Landscape plans for individual parcels shall be approved by the County prior to development to ensure no inappropriate plant material is incorporated into the design of any individual lot or common area which may compromise the quality of the Conservation Areas.

- Development may not change the natural hydrologic conditions of the Conservation Areas. All grading plans shall be reviewed by the County to ensure hydrologic conditions of the conservation lands are not adversely changed by development.
- The Project Applicant or ~~a~~Appointed ~~c~~Conservation ~~e~~Entity shall monitor Conservation Areas on a periodic basis to ensure invasive, non-native species are not present. All non-nature invasive plant species shall be removed from Conservation Areas.
- Fuel modification zones and programs shall not be implemented in Lots A and H.
- The Conservation Entity shall prepare an annual biological monitoring report identifying the current status of the rare plant species and any necessary actions to further enhance and protect the habitat.
- The Conservation Entity shall conduct routine monitoring of rare plant resources on Lot A and H. The occurrence of non-native species outbreaks, or other examples of ecological disturbance as a result of indirect impacts of development in and around Lots A and H shall be reported in the annual biological monitoring reports and remedial action shall be recommended and implemented by the Conservation Entity.

Page 2-58

Mitigation Measure BR-3 has been updated.

BR-3 ~~The project proponent shall have a biologist qualified with San Bernardino flying squirrel (SBFS) as a monitor during tree removal. Minimize the number of trees, snags, and downed wood removed for project implementation. Compensating the removal of snags containing cavities; this would be achieved by constructing and erecting two nest boxes and one aggregate box per snag removed. Appendix A of this Revised and Recirculated Draft EIR No. 2 provides the specifications of the nest and aggregate boxes (Flying Squirrels 2007). These boxes should be located on the adjacent U.S. Forest Service (USFS) land (with their permission) and the locations marked with a global positioning system. The locations of the boxes shall be provided to the USFS so that their biologists could monitor the boxes for occupation by SBFS.~~

~~Provide new homeowners with a flyer that would provide information on the biology of SBFS and how they are susceptible to depredation by cats. The flyer would also outline steps that homeowners could take to reduce their urban edge effects.~~

Given the negative results of on-site surveys and the available technical and peer reviewed literature, negative effects to the San Bernardino flying squirrel are not expected. However, because marginal foraging habitat was found on-site, the following mitigation measures will be implemented in the lots with densely forested areas and snags. These mitigation measures are to be implemented to avoid and minimize impacts to San Bernardino flying squirrels:

- The Project Applicant shall have a qualified biologist as a monitor just prior to and during all tree removal on-site.
- Minimize the removal of large coarse woody debris (>10cm diameter), which provide microhabitat for the growth of hypogeous fungi.
- Limit removal of standing snags (>25cm dbh) and large trees (>25cm dbh), which provide both structural complexity and potential nesting habitat.
- Prioritize the retention of large trees and snags with visible potential cavity nesting structures, which are associated with higher densities of northern flying squirrels.
- Minimize the loss of continuous canopy closure, especially in the drainages, which provides protection from predators while foraging and may play an important role in maintaining habitat connectivity.
- The Project Applicant must compensate for the removal of suitable habitat through construction and erection of two nest boxes and one aggregate box per snag removed.
- The Project Applicant is required to provide homeowners with information on the biology of the flying squirrel and suggest steps that homeowners can take to reduce their urban-edge effects.
- All subsequent home developers must comply with these provisions which shall be enforced by the County of San Bernardino through implementation of the Mitigation Monitoring and Reporting Program as mandated by CEQA.

If the monitoring biologist observes a flying squirrel during pre-construction and/or construction monitoring, the biologist will immediately halt work until the occupied tree can be vacated prior to felling the tree; however, if the work is during the nesting season (generally March through May), when baby squirrels could be present, the nest will not be vacated until after the nesting season ends (June 1st), as cleared by the monitoring biologist.

Page 2-59

Detail added to Mitigation Measure BR-4 has been added.

BR-4 Eagle perch trees identified in the 2002 Bonterra Consulting Bald Eagle Survey for Tentative Tract 16136, Moon Camp, Fawnskin, San Bernardino County, California, (see Appendix A of the Revised and Recirculated Draft EIR No. 2) and the Long Term Management Plan shall be preserved in place upon project completion. If any of the designated perch trees should become hazardous and need to be taken down, replacement will be either (1) at a 5:1 ratio with the creation of artificial perch trees ~~along shoreline designated open space.~~ within the Conservation Areas or by enhancing other trees by trimming and limbing to make suitable for eagle perching. The exact method of perch tree replacement shall be made after consultation with a certified arborist. Prior to commencement of construction activity, the applicant shall have a qualified consultant survey all trees on-site to determine the location of all perch trees to be preserved. Any development that may occur within the Project site and in the individual lots must avoid impacts to trees larger than 24 inches dbh and their root structures to the maximum extent feasible. If any additional non-perch trees on-site larger than 24 inches dbh are removed, then a replacement ratio of 2:1 shall be required and replacement trees shall be 24-inch box trees or larger. Whenever an eagle perch tree or other non-perch tree larger than 24 inches dbh is removed, the Homeowner's Association shall retain a qualified consultant to oversee removal and compliance with the replacement requirement. All construction or landscaping improvements, including irrigation, will be prohibited on or around the exposed root structures or within the dripline of these trees. These restrictions on development of the individual lots must be clearly presented and explained to any potential prospective developers and/or homeowners prior to assumption of title and close of escrow. This measure shall be identified as a Note on the Composite Development Plan.

Page 2-59

Date range for Mitigation Measure BR-6 has been corrected.

BR-6 Seven days prior to the onset of construction activities, a qualified biologist shall survey within the limits of project disturbance for the presence of any active raptor nests. Any nest found during survey efforts shall be mapped on the construction plans. If no active nests are found, no further mitigation would be required. Results of the surveys shall be provided to the ~~CDFG~~ CDFW.

If nesting activity is present at any raptor nest site, the active site shall be protected until nesting activity has ended to ensure compliance with Section 3503.5 of the California Fish and Game Code. Nesting activity for raptors in the region of the Project site normally occurs from February 1 to ~~June~~ July 31~~0~~. To protect any nest site, the following restrictions on construction are required between February 1 and ~~June~~ July 31~~0~~ (or until nests are no longer active as determined by a qualified biologist): (1) clearing limits shall be established a minimum of 300 feet in any direction from any occupied nest and (2) access and surveying shall not be allowed within 200 feet of any occupied nest. Any encroachment into the 300/200-foot buffer area around the known nest shall only be allowed if it is determined by a qualified biologist that the proposed activity shall not disturb the nest occupants. Construction during the nesting season can occur only at the sites if a qualified biologist has determined that fledglings have left the nest.

Page 2-60

Detail range for Mitigation Measure BR-7 has been corrected.

Vegetation removal, clearing, and grading on the Project site should be performed outside of the breeding and nesting season (between February 1 and ~~June 30~~July 31), when feasible, to minimize the effects of these activities on breeding activities of migratory birds and other species. If clearing occurs during breeding season, a 30-day clearance survey for nesting birds shall be conducted. Any nest found during survey efforts shall be mapped on the construction plans. If no active nests are found, no further mitigation would be required. Results of the surveys shall be provided to the ~~CDFG~~ CDFW. If nesting activity is present at any nest site, the active site shall be protected until nesting activity has ended to ensure compliance with Section 3503.5 of the California Fish and Game Code.

Page 2-62

Detail with regard to conservation of Ashy-Gray Indian Paintbrush has been added.

The Supplemental Focused Special Status Plant Species Survey (August 29, 2010) concluded that Project site contained 7.71 acres of habitat for the Ashy-Gray Indian Paintbrush, of which 4.84 acres will be permanently preserved on-site. This results in mitigation of project impacts on a 1.68:1 ratio (with inclusion of the Dixie Lane property it is 5.04:1). On an occurrence basis, the project site contains 5,567 occurrences of Ashy-Gray Indian Paintbrush with 84 percent, or 4,665 of the occurrences, located in the area now classified as Lot H. An additional 230 Ashy-Gray

Indian Paintbrush occurrences are located in the remainder portion of Lot A after redesign of the subdivision. In total, approximately 88 percent of the ashy gray Indian paintbrush occurrences on the Project site will be protected through permanent conservation easements burdening both lettered Lots A and H.

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Appendix B:
Shute, Mihaly & Weinberger LLP Letter Exhibits

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California Drought: Hydrological and Regulatory Water Supply Issues

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December 7, 2009

Congressional Research Service
7-5700
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R40979

CRS Report for Congress
Prepared for Members and Committees of Congress

Summary

California experienced severe water supply shortages in 2009, which led to economic disruption across the state, including concentrated losses in agricultural areas in the western portion of the Central Valley—areas already experiencing declines in the housing industry and the economic downturn in general. At the same time, several fish species whose habitat lie at the heart of California's water supply system and throughout its northern rivers are in decline and some face the possibility of extinction. This situation too has had economic implications, resulting in job and income losses in northern California. The short-term issue for Congress is how to evaluate demands for increasing water supplies that may help some users but may jeopardize the continued existence of several fish species. A longer-term issue for Congress is how to evaluate management alternatives that will protect species, but also help water users and economies that depend on reliable water supplies and healthy ecosystems.

While three years of hydrological drought conditions have created a fundamental shortage of water supply in California, many water users have questioned the extent to which regulatory and court-imposed restrictions on water removed from the Sacramento and San Joaquin Rivers Delta, in order to protect fish habitat, have contributed to water shortages in 2009. Conversely, fishermen and others question to what degree increased Delta pumping in 2004 contributed to fish declines.

Current observations of below-average runoff, reservoir levels, and groundwater levels are broadly comparable to those observed during previous episodes of drought in California. At the end of water year 2008-2009 (October through September), statewide precipitation stood at 76% of average, and water levels in key reservoirs in the state were 69% of average. Groundwater levels from selected wells in the Central Valley are also broadly similar to groundwater levels during two previous historic drought periods. The below-average precipitation, below-average water content of the Sierra snowpack in consecutive winters, and similarity of groundwater levels compared across different periods of California drought support the contention that a multiyear hydrological drought underlies the current water crisis that faces California.

Depending on what baseline is used, total reductions in water exported from the Delta in 2009 are estimated to range from 37% to 42%. Restrictions on water deliveries resulting directly from federal and state regulations, or imposed by courts' interpretation of those rules, are estimated to range roughly from 20% to 25% of the total export reductions for 2009. The remaining 75%-80% of 2009 export reductions, according to the Department of the Interior, are due to "lack of run-off" (i.e., drought) and other factors. The system of state water rights also has a profound effect on who gets how much water and when, particularly in times of drought or other shortages. Water shortages due to drought and regulatory export restrictions have resulted in unequal impacts on Central Valley Project (CVP) and State Water Project water contractors because of differences in priority of water rights underlying different water contracts. Although combined Delta exports have increased on average since the 1980s and early 1990s, even with implementation of several regulatory restrictions, CVP water allocations for some contractors have been significantly reduced.

This report discusses California's current hydrological situation and provides background on regulatory restrictions affecting California water deliveries, as well as on the long-established state water rights system, which also results in uneven water deliveries in times of shortages.

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Contacts

Introduction

This report analyzes California's current hydrological situation and addresses whether California is experiencing a hydrological drought and to what extent water delivery reductions are linked to regulatory restrictions. Some observers question the Administration's and the state's contention that drought conditions persist and that such conditions are largely to blame for significantly reduced water deliveries in 2009. It appears that three years of hydrological drought conditions have created a fundamental shortage of supply, and that regulatory and court-imposed restrictions, as well as the long established state water rights system, seem to have exacerbated the impacts of drought on water deliveries. An underlying question is not necessarily whether the drought is either hydrological or regulatory, but rather to what extent each affects water deliveries.

The Department of the Interior (hereafter referred to as "Interior") has stated that California is experiencing a hydrological drought.[1] This also was briefly stated by Interior and other federal agencies in response to Member questions during a March 31, 2009, hearing on drought before the House Natural Resources Committee. Further, the governor of California declared a drought emergency in both January 2008 and January 2009. Earlier this year, USDA had designated two California counties as primary natural disaster areas, and most recently the U.S. Department of Agriculture on September 22 designated 21 counties in California as "primary natural disaster areas" because of losses caused by drought in 2009.[2]

CRS has analyzed a variety of data and information on hydrological and regulatory limits on California water resources, as well as restrictions due to water rights allocations. This report provides a summary of California's 2009 hydrological situation with comparisons, where applicable, to other drought years; a summary of the key regulatory requirements that at times limit water deliveries or "exports" from the San Joaquin and Sacramento Rivers Delta (hereafter referred to as the "Delta"); and a brief discussion of California water rights and how they relate to different types of federal contracts and their associated water allocations.

What Is Drought?

Droughts have affected the United States, particularly the American West, for centuries. Drought is defined in a number of ways; the simplest may be as a deficiency of precipitation over an extended period of time, usually a season or more. [3] The deficiency is usually evaluated relative to some long-term average condition, or balance, between precipitation, evaporation, and transpiration by plants. Drought, which has a beginning and an end, is distinguished from aridity, which is restricted to low-rainfall regions and is a relatively permanent feature of climate (e.g., deserts are regions of relatively permanent aridity).[4]

[1] U.S. Dept. of the Interior and Office of Communications, *Reality Check: California's Water Crisis*, Washington, DC, September 17, 2009, p. 1, http://www.usbr.gov/main/docs/CA_Water_Reality_Check.pdf.

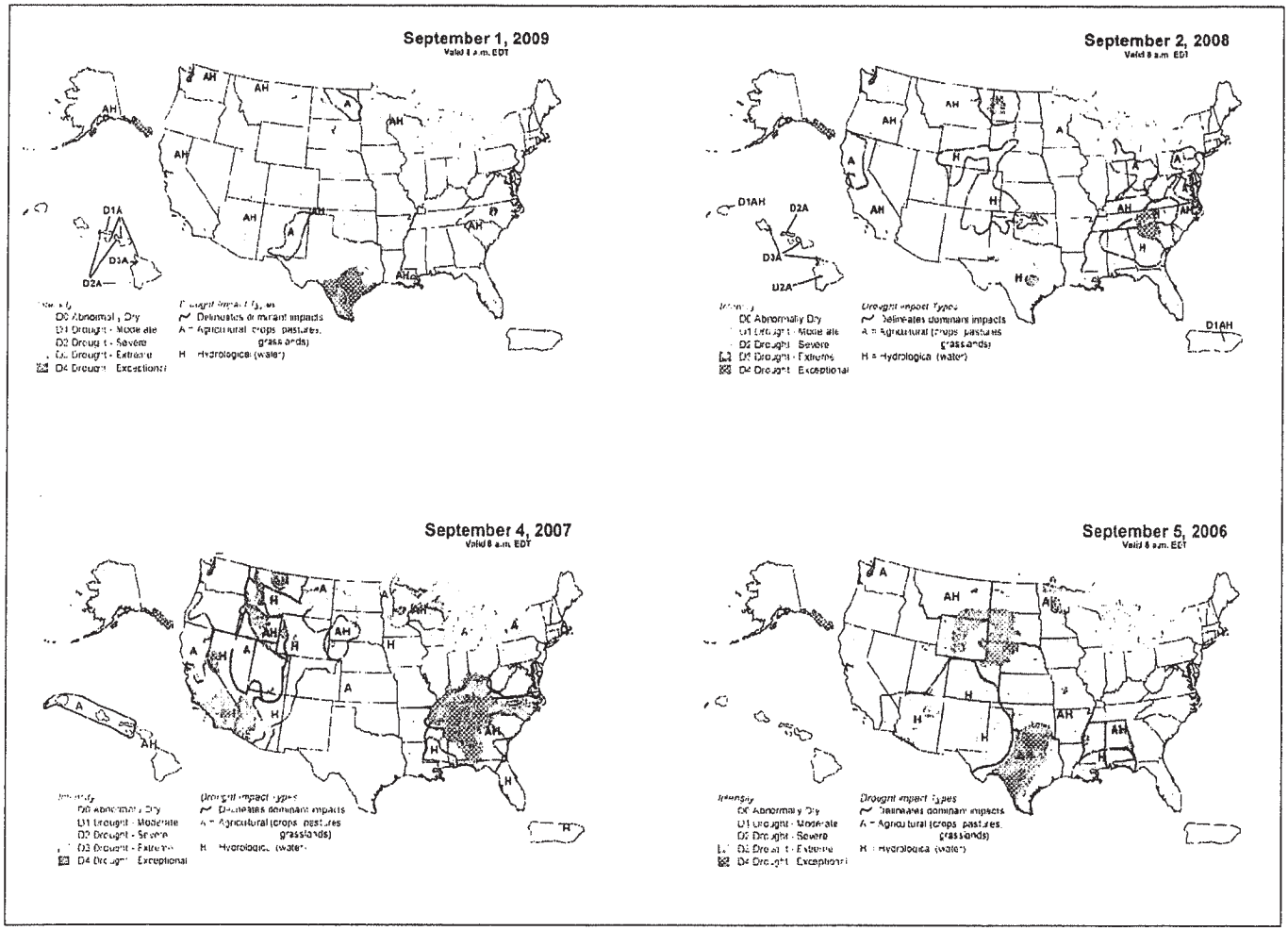
[2] U.S. Dept. of Agriculture, Farm Service Agency, *USDA Designates 21 Counties in California as Primary Natural Disaster Area,* News Release No. 1481.09, Sept. 22, 2009, http://www.fsa.usda.gov/FSA/newsReleases?area=newsroom&subject=landing&topic=edn&newstype=ednewsrel&type=detail&item=ed_20090922_rel_1481.html.

[3] National Drought Mitigation Center (NDMC), at http://www.drought.unl.edu/whatis/what.htm.

[4] NDMC, at http://www.drought.unl.edu/whatis/concept.htm.

At the national level, drought is monitored and reported in an index known as the U.S. Drought Monitor, which synthesizes various drought indices and impacts, and represents a consensus among academic and federal scientists of ongoing drought conditions. The U.S. Drought Monitor uses five key indicators, together with expert opinion, indices to account for conditions in the West where snowpack is relatively important, and other indices used mainly during the growing season. (The five key indicators include the Palmer Drought Index, the Climate Prediction Center soil moisture model, U.S. Geological Survey weekly streamflow data, the Standardized Precipitation Index, and short- and long-term drought indicator blends.)[5] Drought indices are typically used to assess and classify the intensity and type of drought. The classification of drought intensity, such as that shown in **Figure 1**, may depend on a single indicator or several indicators, often combined with expert opinion from the academic, public, and private sectors.

Figure 1. U.S. Drought Monitor Maps for Early September 2006-2009



Source: U.S. Drought Monitor, at http://drought.unl.edu/DM/MONITOR.html.
Notes: The U.S. Drought Monitor map for early September 2006 is shown for comparison, indicating that California was not experiencing drought conditions in 2006.

[5] For a discussion of drought indices, see the NDMC, at http://www.drought.unl.edu/whatis/indices.htm. See also U.S. Drought Monitor, at http://www.drought.unl.edu/dm/classify.htm.

The "A" and "H" terms shown in **Figure 1** give additional information on the nature of the drought in the affected region. Agricultural drought ("A") can be defined as when there is insufficient moisture to meet the needs of a particular crop at a particular time.[6] Hydrological drought ("H") can be defined as deficiencies in water supplies, as measured by stream flows, lake or reservoir levels, or elevation of the ground water surface. Hydrological drought usually lags behind agricultural drought because it takes longer for deficiencies in precipitation to affect the broader hydrologic system. Lack of rainfall during a critical part of the growing season may have an immediate impact on farmers—an agricultural drought—but the deficiency may not affect reservoir or river levels for many months. Because a hydrological drought affects the broader hydrologic system, such as one or several river basins, a severe hydrological drought could exacerbate competition among water uses: irrigation, navigation, recreation, municipal and industrial supply, energy production, preservation of endangered species, and others.

Drought in California: Hydrological Conditions

The U.S. Drought Monitor in **Figure 1** shows persistent drought in California for 2007-2009. The map does not take into consideration any decisions on reductions in water delivery made by the state or federal government. It is strictly a representation of the hydrological status of California (from factors other than deliveries of water mandated or restricted by regulation). However, increases in 2009 precipitation levels in many California watershed basins and near-average and above-average reservoir levels in some areas of the state have caused some to question the drought determination by state and federal officials. Some parties have pointed in particular to environmental restrictions on Delta exports as causing a regulatory or "man-made" drought.[7] In response to this debate, the Bureau of Reclamation has noted that one-third less water—approximately 2.1 million acre-feet (AF)[8]—is available for export out of the Delta this year. Of that amount, the agency estimates that nearly 25% (500,000 AF) of this year's export reduction is due to recent Endangered Species Act (ESA) restrictions for the Delta smelt and the other 75% is due to dry conditions and other long-standing requirements such as Delta salinity standards. Another less frequently mentioned factor in water allocations is the state system of water rights, which has a large and direct effect on how much water the different state and federal water contractors receive north of the Delta versus south of the Delta, particularly in dry years. Under this system, some federal water contractors are receiving just 10% to 15% of their contracted supplies, while more senior contractors are receiving 100%. (For a summary of the different types of contractors, see "California Water Rights: Acquisitions and Allocations," below.)

The U.S. Drought Monitor map for September 1, 2009 (upper left map in **Figure 1**), includes California within its agricultural and hydrological drought impact classification (the AH symbol on the map), which means that the dry conditions have been severe enough to affect crops, pastures, grasslands, rivers, groundwater supplies, and reservoir levels. **Figure 1** also illustrates the persistent nature of the drought for 2007 through 2009. The figure shows that other parts of the country, such as Texas, the Southeast, and portions of the Great Plains have seen drought conditions come and go since 2006. In contrast, California has faced abnormally dry to extreme drought conditions continuously from 2007 to the present.

[6] NASA Earth Observatory, at http://earthobservatory.nasa.gov/Library/DroughtFacts/.

[7] For example, see floor debate on motion to recommit H.R. 1145, the National Water Research and Development Initiative Act of 2009, *Congressional Record*, daily edition, vol. 155 (April 23, 2009), p. H4715.

[8] An acre-foot is equivalent to 325,851 gallons.

California has experienced years of consecutive drought in the past. Observations of below-average runoff, reservoir levels, and groundwater levels are broadly comparable to those observed during previous episodes of drought in California (e.g., 1977-1978 and 1987-1992).

Runoff and Storage

The California Department of Water Resources (DWR) evaluation (as of August 31, 2009) of the California drought identifies below-average runoff and reservoir storage:

> This water year will be the third dry year in a row for California. Runoff and reservoir storage entering Water Year 2009-2010 will be below average, with key reservoirs significantly lower than average. Emergency declarations are in place in four counties currently experiencing economic or supply difficulties. Drought conditions remain severe at this time, and the developing El Nino over the Pacific Ocean may not improve statewide water supply next year.[9]

Below-average runoff indicates an underlying deficit in precipitation, which would support a common definition of drought: less rain or snow than a region would receive compared to some long-term average (consistent with the description of hydrological drought, discussed above). The California DWR also points out that California has experienced three dry years in a row compared to the long-term average, a persistent and statewide condition that likely underlies much of the discussion and controversy over water allocations in the state. **Figure 2** shows reservoir storage at the end of the water year in California for seven "key" reservoirs identified by the California DWR for 2006-2009. The figure shows that the reservoirs have been at 78% or less of average levels for the last three years compared to 2006, which was 123% of average for the seven reservoirs. Reservoir levels for the seven key reservoirs shown in **Figure 2** were at 69% of historical average as of September 30, 2009, the end of the 2008-2009 water year.

A comparison of reservoir levels for 12 California reservoirs measured in April 2009 and in September 2009 indicates that individual reservoirs' conditions changed in the intervening five months, but that nine of the 12 reservoirs were below historically average levels in both April and September. (See **Appendix A** and **Appendix B** for the comparison between April and September for the 12 reservoirs.) According to the California DWR, statewide reservoir storage was at 79% of average levels at the end of September; however, the two largest reservoirs (Shasta and Lake Oroville) in the federal and state systems serving California remained at 63% and 59% of historical levels for September.[10] Also, comparing the *amount* of water held in storage at each of the 12 reservoirs versus the total amount of storage (i.e., the aggregate amount from the 12 reservoirs) historically held at the same time shows that reservoir levels were at approximately 70% of the historical total, not 79% as indicated by the California DWR.[11] This difference may reflect the way the California DWR calculated the statewide average value from the levels measured in the 12 reservoirs.[12] In addition, of the five reservoirs which historically average

[9] As shown in **Appendix A**, some reservoirs are at or above historically average levels, but overall storage is below the historical average. California Department of Water Resources, "California's Drought Update," August 31, 2009, at http://www.water.ca.gov/drought/docs/DroughtUpdate-083109.pdf.

[10] California Department of Water Resources, "California's Drought Update" (Sept. 30, 2009), at http://www.water.ca.gov/drought/docs/DroughtUpdate_sept30.pdf.

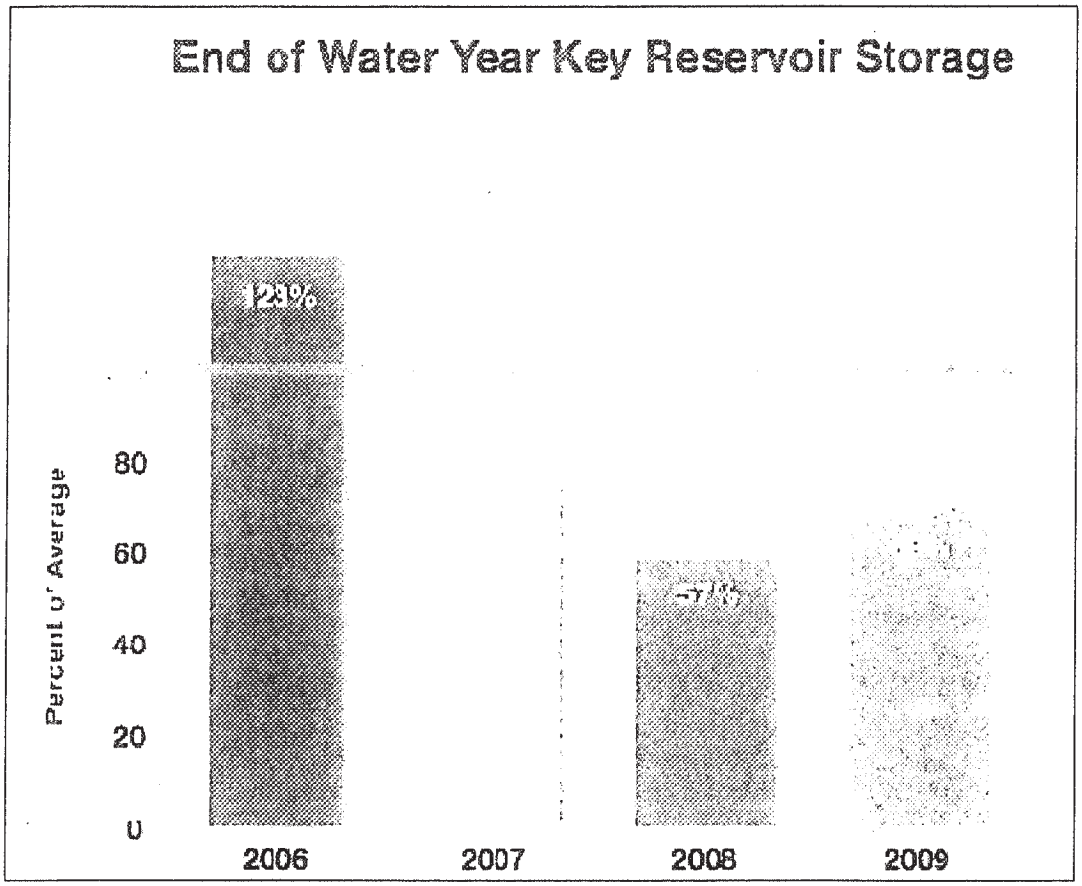
[11] California Department of Water Resources, California Data Exchange Center, *Current Conditions for Major Reservoirs* (as of September 29, 2009), at http://cdec.water.ca.gov/reservoir_map.html.

[12] CRS calculated the 70% value by summing the total amount of water held in storage for the 12 reservoirs and dividing by the total amount of water historically held in storage during the same time period for all 12 reservoirs. The (continued...)

greater than 1 million AF of storage at the end of September, only Don Pedro reservoir was above its historical average (106%); the other four reservoirs ranged from 83% (New Melones) to 54% (Trinity). The three largest reservoirs (Shasta, Oroville, Trinity), which historically contain over 50% of the total storage in September for the 12 reservoirs shown in **Appendix A**, were all well below average historical levels at the end of September 2009, ranging from 54% (Trinity) to 63% (Shasta).

Figure 2. Reservoir Storage at the End of the Water Year, as a Percent of Average, for Seven Reservoirs in California

(2009 levels as of September 30, 2009)



Source: California Department of Water Resources, "California's Drought Update," Figure 2 (Nov. 30, 2009), at http://www.water.ca.gov/drought/docs/DroughtUpdate-113009.pdf.

Notes: The seven reservoirs identified as "key" by the California DWR are Trinity, Shasta, Oroville, Folsom, Don Pedro, New Melones, and San Luis.

(...continued)

CRS calculation thus accounts for the different amount of water held in each reservoir. In contrast, calculating the percent of storage held in each individual reservoir, summing the percentages for all 12 reservoirs, and then taking the average of summed percentages yields a value of 81.5% for September 29, 2009. The latter calculation would give greater weight to smaller reservoirs, rather than reflect the status of total storage compared to a total historical average for all reservoirs.

Timing

Persistent drought conditions in California since 2007 do not necessarily mean that all locations throughout California experienced the same degree of drought at all times. Drought conditions have changed over time and by location, so that despite below-average precipitation and lower-than-average reservoir levels generally, conditions have differed from month to month. For example, January is normally the wettest month for California, averaging 4.35 inches of precipitation in the state.[13] In January 2009, however, California only received 1.25 inches, or 29% of average precipitation for the month. From October through April, a seven-month period, California receives most of its precipitation, an average of approximately 20 inches, or more than 90% of the yearly total. For 2008-2009, only February received above-average precipitation over that seven-month period (**Table 1**). Despite a relatively wet February (138% of average), and a wet May and June (169% and 134% of average, respectively), California had received 76% of its average annual precipitation as of September 30, 2009.[14] The state had received 77% at the end of March and 73% at the end of April 2009[15]—critical times for water delivery decisions (see **Table 1**). The California DWR reported that reservoir storage was 80% of average at the end of August; however, much of that storage was located in smaller reservoirs south of the Delta.[16]

Table 1. Average and Observed Statewide Precipitation, by Month

(shows % of average by month and cumulatively for water year 2008-2009, through September 30, 2009)

Month	Average Precipitation Statewide (inches)	Water Year 2008-2009 Observed Precipitation	% of Average (by month)	% of Average (cumulative)
October	1.22	0.73	60%	60%
November	2.80	2.49	89%	80%
December	3.91	3.05	78%	79%
January	4.35	1.25	29%	61%
February	3.66	5.06	138%	79%
March	3.12	2.13	68%	77%
April	1.64	0.59	36%	73%
May	0.89	1.50	169%	77%
June	0.35	0.47	134%	79%
July	0.18	0.03	17%	78%
August	0.28	0.06	21%	78%
September	0.48	0.09	19%	76%
Total	**22.34**	**17.39**		**76%**

Source: California Department of Water Resources, "California's Drought Update," (Nov. 30, 2009), Table 1, at http://www.water.ca.gov/drought/docs/DroughtUpdate-113009.pdf. CRS provided the last column showing the cumulative % of average precipitation.

[13] California Department of Water Resources, "California's Drought Update" (Nov. 30, 2009), Table 1, at http://www.water.ca.gov/drought/docs/DroughtUpdate-113009.pdf.

[14] Ibid.

[15] Ibid.

[16] California Department of Water Resources Data Exchange Center, "Executive Update" (September 1, 2009), at http://cdec.water.ca.gov/cgi-progs/reports/EXECSUM. Also, see footnote 12 for another explanation for the how the 80% value may have been calculated.

When, where, and how precipitation occurs (e.g., snow versus rain) are critical to water allocation decisions typically made in the late spring. The timing of precipitation and runoff critically influences allocation decisions for the State Water Project (SWP) and the Central Valley Project (CVP). For example, both projects rely on precipitation data, including data indicating the water content of snowpack and projected runoff, to decide how much water to allocate to water users early in the water year (February-May). Typically, DWR and the Bureau of Reclamation (hereafter referred to as "Reclamation") announce water allocations for the coming growing season in mid-February of each year. This announcement is generally followed by monthly allocation announcements (through May) based on updated precipitation data and runoff projections. In February 2009, the California DWR (responsible for the SWP) and Reclamation (responsible for the CVP) announced that water allocations would be significantly restricted for all contract categories and severely restricted for some (some CVP contractors were to receive no CVP water). DWR stated that its May allocation for the water year was its last allocation, based on reservoir levels and other factors up to that date. Although early May rain and snow allowed the DWR to increase its allocation of the SWP from 30% to 40%, below-normal precipitation and runoff for six of the preceding seven months kept the allocation low: "This small increase in SWP deliveries does not mean California has overcome the effects of three consecutive dry years. In fact, 2007 to 2009 will likely rank in the top 10 driest three-year periods in the last century."[17] Similarly, Reclamation was able to increase its CVP allocations in April and May; however, south-of-Delta CVP *water service* contractors were still allocated just 10% of their maximum contract amount, while senior north-of-Delta *water rights* contractors and south-of-the-Delta *water rights* contractors were allocated 100% of their contract amounts.[18]

Because the Sierra Nevada snowpack is such a critical component of the California water supply, the amount, timing, and water content of the snowpack influences decisions about water distribution for the rest of the year. For example, January 2009 was the ninth-driest January on record for the state, and the Sierra snowpack contained only 60% of its average water content, prompting the California governor to declare a statewide emergency due to drought on February 27, despite a relatively wet February.[19] The Sierra snowpack was also at 60% of its average water content in January 2008, and the driest spring on record in 2008 also prompted the governor to declare a statewide drought and a state of emergency for nine counties in June 2008,[20] despite improvements in the snowpack in February 2008.

Prospects for a Continuing Hydrologic Drought

California receives the bulk of its precipitation in the late fall and winter months, and it is difficult to predict with any certainty what the precipitation patterns will be for the 2009-2010 water year. Greater than average precipitation fell during October 2009 (2.29 inches received versus 1.22 inches average);[21] however, precipitation in October typically represents only about 5% of the

[17] California Department of Water Resources Director Lester Snow, May 20, 2009 press release, at http://www.water.ca.gov/news/archive/index.cfm.

[18] Maximum contract quantities are not the same as deliveries. A variety of factors influence actual deliveries in any given year and in some cases actual deliveries are often well below a contractor's maximum contracted supply.

[19] California Department of Water Resources, "Drought Timeline," at http://www.water.ca.gov/drought/docs/timeline-present.pdf.

[20] Ibid.

[21] California Department of Water Resources, "California's Drought Update" (Nov. 30, 2009), Table 1, at http://www.water.ca.gov/drought/docs/DroughtUpdate-113009.pdf.

WATER AVAILABILITY ANALYSIS

Policy Report
August 2007

Introduction:

At the height of the 1990 drought in Napa County, the Napa County Board of Supervisors and the Napa County Planning Commission became very concerned with the approval of use permits and parcel division that would cause an increased demand on groundwater supplies within Napa County. During several Commission hearings, conflicting testimony was entered as to the impact of such groundwater extraction on water levels in neighboring wells. The Commission asked the Department of Public Works to evaluate what potential impact an approval might have on neighboring wells and on the basin as a whole. In order to simplify a very complex analysis, the Department developed a three phase water availability analysis to provide a cost-effective answer to the question.

On March 6, 1991, an interim policy was presented and approved by the Commission which requires the applicants for use permits and parcel divisions to submit a water availability analysis with their proposal. The staff report that provides the procedure to follow for compliance with the Commission policy was intended to be an interim one. With the passage on August 3, 1999 by the Board of Supervisors of Napa County Ordinance #1162 (the Groundwater Conservation Ordinance) it became apparent that the interim policy required updating and formalization. The purpose of the revised report is to provide the procedure for preparation of water availability analysis and to restate the purpose and functionality of the analysis as related to the revised Groundwater Ordinance (Napa County Ordinance # 1162).

Water Availability Analysis:

The Water Availability Analysis (WAA) sets up guidelines to determine if a proposed project will have an adverse impact on the groundwater basin as a whole or on the water levels of neighboring wells with the overriding benefit of helping to manage groundwater resources. An important sidelight to the process is public education and awareness. WAA's are comprised of potentially three phases; phase one, phase two and phase three.

A **phase one analysis** is a reconnaissance level report that may be prepared by the applicant or their agent. **It must be signed by the applicant. If prepared by the applicant's agent, it must contain the letterhead of the agent, the name of the agent, and the agent's signature.** The phase one WAA contains the following information:

1. The name and contact information of the property owner and the person preparing the phase one report.

2. Site map of the project parcel and adjoining parcels. The map should include: Assessor's Parcel Number (APN), parcel size in acres, location of project well(s) and other water sources, general layout of structures on the subject parcel, location of agricultural development and general location within the county.

3. Narrative on the nature of the proposed project including: all land uses on the subject parcel, potential for future water uses, details of operations related to water use, description of interconnecting plumbing between the various water sources and any other pertinent information.

4. Tabulation of existing water use compared to projected water use for all land uses contained on the parcel. Should the water use extend to other parcels, they should be included in the analysis (see Appendix E for additional information on determining fair share estimates when multiple parcels are involved). **These estimates should reflect the specific requirements of the applicant's operations.** The applicant should use the guidelines attached in Appendix A

The Department will review the analysis for completeness and reasonableness (based on the guidelines outlined in Appendix A) and then compare the analysis to a threshold level of groundwater use for the subject parcel. The threshold is based upon several factors including annual rainfall, topography, soil types, proximity to recharge zones and available groundwater information. In general, parcels located on the Valley Floor or in strong alluvial areas will be assigned a threshold of 1 acre-foot per acre of land (an acre-foot of water is the amount of water it takes to cover one acre of land to a depth of one foot, or 325,851 gallons). Therefore, a 40-acre parcel will have an acceptable level of groundwater use of 40 acre-feet per year. The threshold for Hillside parcels (primarily located in volcanic rock and soils) is 0.5 acre-feet per acre or 20 acre-feet per year for a 40-acre parcel. Areas designated as "Groundwater Deficient Areas" as defined in the Groundwater Conservation Ordinance will have threshold established for that specific area. For example, the Milliken-Sarco-Tulocay Basin (M-S-T) is currently the only "groundwater deficient area" and has an established threshold of 0.3 acre-feet per acre per year. Thus, the same 40-acre parcel has an acceptable level of water use of 12 acre-feet per year (see Appendix B).

If the Phase I analysis shows a water use above the parcel threshold then further analysis may be required in the form of a Phase II or Phase III analysis.

In instances where the applicant is in the M-S-T basin and their estimated future water usage will be significantly less than the values listed in Appendix A, or if the estimate is within 50% of the estimated threshold, the County may require the applicant to install a water meter to verify actual groundwater usage. If the actual usage exceeds the parcel's threshold, applicant may be required to reduce groundwater consumption and/or find

alternate water sources to ensure that no more groundwater is consumed than the threshold for the parcel(s) (See Appendix D).

In the M-S-T basin a phase one analysis examines only the estimated quantity of groundwater water usage as compared to the established water usage threshold. It is assumed that if all consumers within the MST basin were to limit their consumption to 0.3 acre-feet per acre per year* there will be sufficient groundwater for all properties within that area.

* Does not apply to the Ministerial Exemption as outlined in the Groundwater Conservation Ordinance

Any new project within the M-S-T Basin whose estimated use exceeds the threshold use will likely be recommended for denial to the County Department requesting review of the application.

For projects in all other areas within Napa County whose estimated water use exceeds the threshold, the applicant will be required to conduct either a **phase two or a phase three analysis (or both).**

The phase two analysis is commonly called an acquifer test or well test. It requires the pumping of the project well(s) at the maximum rate needed to meet project water demands and at the same time requires the monitoring of the immediate effects of groundwater pumping on a neighboring or monitoring well(s). The following requirements must be met when performing a phase two analysis:

- An approved hydrogeologist, a list of which is on file with the Department of Public Works, must develop the test procedure. Upon approval of test procedures, the hydrologist will supervise the test and submit a report to the Department evaluating impacts to neighboring static water levels.
- A licensed well drilling contractor must perform the actual testing and monitor static and dynamic water levels of the project well and monitoring wells during the duration of the test, including the recovery phase of the project well and monitoring wells.
- The test must be conducted long enough to stabilize the dynamic water level of the project well or include an analysis of what the impact* of continued pumping would have.
- The applicant or agent must notify the Department at least 48 hours prior to conducting the test.

* Impact is unique to each project and will be evaluated on a case by case basis by the department of public works.

Any projects requiring a phase two analysis may also be required to install water meters to measure the actual amount of water consumed, and be required to find alternate

water sources if their actual groundwater usage exceeds the threshold for their property (see Appendix D).

The Department will review the phase two analysis and determine if the impacts to static water levels of neighboring wells are within acceptable limits. If the phase two is unacceptable, **a phase three analysis** is required. The phase three analysis may include many measures aimed at reducing water consumption and/or the maximum pumping rate. The Department will require periodic monitoring of static water levels with annual submittals of well production and static water level reports.

The phase three analysis only determines possible actions which could be taken to moderate the immediate effects of groundwater pumping to neighboring wells. These mitigation measures will be designed to reduce, but may not eliminate, the immediate effects of groundwater pumping to neighboring wells.

The preparation and submittal of WAA's for all use permits and parcel divisions, as well as for all Groundwater Conservation Ordinance permits must be submitted through the normal procedures for the Conservation, Development and Planning Department (CDPD) and the Department of Environmental management (DEM) respectively. All subsequent communication should likewise pass through CDPD or DEM. Any mitigation measures identified in the phase three analysis will become either project modifications to, or conditions of approval for, the proposed project.

Details of the use permit or land division can be obtained from CDPD and details of the Groundwater Ordinance and related permit process can be obtained from the Department of Environmental Management. Mapping of "Groundwater Deficient Areas" is available at all three Departments with final determination being supplied by the Department of Public Works.

Conclusions:

The Napa County Board of Supervisors has long been committed to the preservation of groundwater for agriculture and rural residential uses within the County. It is their belief that through proper management, the excellent groundwater resources found within the county can be sustained for future generations.

Since 1991, several conclusions can be drawn from application of the water availability analysis process:

- In the process of conducting the analysis, applicants become much more aware of water use for their project, providing a higher level of awareness and potentially leading to more efficient use of the resource.

- Information submitted by applicants has lead to a broader database for future study and management.

- Groundwater use can vary widely depending upon its availability.

- The current practice of evaluating an applicant's Phase I WAA to determine if additional analysis is needed has been the accepted method for making groundwater determinations. Due to the limited information available on Napa County groundwater basins in general (with the exception of the MST basin), the Phase 1 WAA has been the most reasonable approach to the process and has not been shown to be inaccurate or inadequate. As such, the established WAA procedures for making groundwater determinations as outlined above and throughout the Appendices will continue to be the accepted method of making groundwater determinations and findings.

The water availability analysis is based upon the basic premise that each landowner has equal right to the groundwater resource below his or her property. By attempting to limit the extraction to a threshold amount, it is believed that sufficient groundwater will be available for both current and future property owners.

APPENDIX A: Estimated Water Use for Specified Land Use

Guidelines for Estimating Residential Water Use-For use with the Phase I Form

The typical water use associated with residential buildings is as follows:

Primary Residence	0.5 to 0.75 acre-feet per year (includes minor to moderate landscaping)
Secondary Residence	0.20 to 0.50 acre-feet per year
Farm Labor Dwelling	0.06 to 0.10 acre-feet per person per year

Additional Usage to Be Added

1. Add an additional 0.1 acre-feet of water for each additional 1000 square feet of drought tolerant lawn or 2000 square feet of non-xeriscape landscaping above the first 1000 square feet.
2. Add an additional 0.05 acre-feet of water for a pool with a pool cover.
3. Add an additional 0.1 acre-feet of water for a pool without a cover.

Residential water use can be estimated using the typical water uses above. All typical uses are dependant on the type of fixtures and appliances, the amount and type of landscaping, and the number of people living onsite. If a residence uses low-flow fixtures and has appliances installed, is using xeriscape landscaping, and is occupied by two people, the water use estimates will be on the low side of the ranges listed above.

Examples of Residential Water Usage:

Residential water use can vary dramatically from house to house depending on the number of occupants, the number and type of appliances and water fixtures, the amount and types of lawn and landscaping. Two homes sitting side by side on the same block can consume dramatically different quantities of water.

Example1:
Home #1 is 2500 square feet. Outside the house there is an extensive bluegrass lawn, a lot of water loving landscaping, a swimming pool with no pool cover. Inside the house all the appliances and fixtures, including toilets and shower-heads, are old and have not been upgraded or replaced by water saving types. The owners wash their cars weekly but they don't have nozzles or sprayers on the hose. They do not shut off the water while they are soaping up the vehicles, allowing the water to run across the ground instead. Water is commonly used as a broom to wash off the driveways, walkways, patio, and other areas. The estimated water usage for Home #1 is 1.2 acre-feet of water per year.

Example2:

Home #2 is also 2500 square feet. Outside of the house there is a small lawn of drought tolerant turf, extensive usage of xeriscape landscaping, and no swimming pool. Inside the house all of the appliances and fixtures, including toilets and showerheads, are of the low flow water saving types. The owners wash their cars weekly, but have nozzles or sprayers on the hose to shut off the water while they are soaping up the vehicles. Driveways, walkways, patios, and other areas are swept with brooms instead of washed down with water. Estimated water usage for Home #2 is 0.5 acre-feet of water per year.

The above are only examples of unique situations. The estimated water use for each project will vary depending on existing parcel conditions.

Guidelines For Estimating Non-Residential Water Usage:

Agricultural:	
Vineyards	
Irrigation only	0.2 to 0.5 acre-feet per acre per year
Heat Protection	0.25 acre feet per acre per year
Frost Protection	0.25 acre feet per acre per year
Farm Labor Dwelling	0.06 to 0.10 acre-feet per person per year
Irrigated Pasture	4.0 acre-feet per acre per year
Orchards	4.0 acre-feet per acre per year
Livestock (sheep or cows)	0.01 acre-feet per acre per year
Winery:	
Process Water	2.15 acre-feet per 100,000 gal. of wine
Domestic and Landscaping	0.50 acre-feet per 100,000 gal. of wine
Industrial:	
Food Processing	31.0 acre-feet per employee per year
Printing/Publishing	0.60 acre-feet per employee per year
Commercial:	
Office Space	0.01 acre-feet per employee per year
Warehouse	0.05 acre-feet per employee per year

Parcel Location Factors:

The Fair share allotment of water is based on the location of your parcel. There are 3 different location classifications. Valley Floor, Hillside and Groundwater Deficient Areas. Valley Floor areas include all locations that are within the Napa Valley and the Carneros Region except for areas specified as groundwater deficient areas. Groundwater Deficient areas are areas that have been determined by the Department of Public Works as having a history of problems with groundwater. The only Groundwater Deficient Basin in Napa County is the MST basin. All other areas are classified as Hillside Areas. Public Works can assist you in determining your classification.

Parcel Location Factors

Valley Floor	1.0 acre feet per acre per year
Hillside Areas	0.5 acre feet per acre per year
MST Groundwater Deficient Area	0.3 acre feet per acre per year*

* Does not apply to the Ministerial Exemption as outlined in the Groundwater Conservation Ordinance

The threshold for the Valley Floor Area was determined in 1991 in the form of a Staff Report to the Board of Supervisors. The value of 1.0 AF/A/Year was established as the expected demand an average vineyard would have. It was noted that the Valley Floor threshold would have relatively little effect on neighboring wells.

The threshold for the Mountain Area was established due to the uncertainty of the geology, and the increasingly fractured aquifer in the mountainous and non Napa Valley areas.

The threshold for the Groundwater Deficient Areas was determined using data from the 1977 USGS report on the Hydrology of the Milliken Sarco Tulocay region. The value is calculated by dividing the "safe annual yield" (as determined by the USGS study of 1977) by the total acreage of the affected area (10,000 acres).

APPENDIX B: Values Used to Establish Thresholds

Average Annual Rainfall (Source: Napa County Road & Streets Standards):

American Canyon	1.5 feet per year
City of Napa	2.0 feet per year
Yountville	2.5 feet per year
Oakville	2.5 feet per year
Rutherford	2.67 feet per year
St. Helena	2.75 feet per year
Calistoga	3.0 feet per year
Western Hills	increase by 20%
Eastern Hills	increase by 10%

Threshold Factors of Acceptable Water Use:

Valley Floor	1.0 acre-foot per acre
Hillsides	0.5 acre-foot per acre
MST Groundwater Deficient Areas	0.3 acre-foot per acre*

* Does not apply to the Ministerial Exemption as outlined in the Groundwater Conservation Ordinance

APPENDIX C: Guidance for M-S-T Basin Permit Applications

Data collected from the monitoring of wells within the M-S-T Basin over the last forty years indicate that it may be in overdraft, leading to the conclusion that the existing water users within the basin are pumping more water from the ground than is being naturally replaced each winter season. The only way to end the overdraft trend is to cease all water extraction from the basin. However, as no other reasonable water resources exist in the M-S-T, the Department, to avoid a ban on all new construction, has assumed that each property owner should be able to develop their property to a "reasonable" level of water use while reducing the rate at which the groundwater levels are being lowered.

Within the near future, the U.S.G.S. will release a report on a recent study of the M-S-T Basin. From the U.S.G.S. report we will be able to determine to what extent the overdraft condition may exist and infer what problems may occur from the continued extraction of groundwater from the Basin. Results of the study will be used to plan for alternatives to address these problems. Until the report is available, and alternative measures can be implemented, the Department will use the following analysis to evaluate impacts from proposed projects in the M-S-T Basin:

Single Family Dwellings on Small Parcels In the M-S-T Basin: The average, single family dwelling will likely use between 0.5 and 0.75 acre-feet of groundwater per year. Using a threshold of 0.3 acre-ft/year/acre, the minimum parcel size able to support the above range is between 1.5 to 2.5 acres. Therefore, if an existing residence that uses 0.5 acre-feet per year of groundwater is located on a one-acre parcel, it already exceeds the acceptable level of water use for the property. Applications for the construction of a single family home in these instances can be approved ministerially if the owner agrees to the conditions outlined in the Groundwater Ordinance. If the conditions are not agreed upon, or if the project involves a secondary dwelling or other groundwater uses not consistent with a single family dwelling, then the project would be subject to the complete groundwater permit process including but not limited to the submittal of a Phase 1 analysis detailing all water use, existing and proposed, on the project parcel.

Agricultural Development In the M-S-T Basin: Agriculture in the M-S-T Basin is not exempt from the groundwater permit process. In these cases, such development will require an application for a groundwater permit including a phase one analysis detailing the existing and proposed water use(s) on the project parcel(s). It is likely that all agricultural development in the M-S-T will be required to meter all wells supplying water to the property with periodic reports to the Department.

Existing Vineyard, New Primary or Secondary Residence In the M-S-T Basin: On an application related to a new residence on a parcel with an existing vineyard or residence, the Phase 1 WAA shall include all water use on the property, both existing and proposed. Projects on parcels with an established vineyard will likely be required to meter all wells supplying water to the property with periodic reports to the Department.

Wineries and Other Use Permits In the M-S-T Basin: On an application for a use permit, the applicant is required to provide a phase one analysis. Should the application be approved, a specific condition of approval will be required to meter all wells supplying groundwater to the property with periodic reports to the Department. It is also possible that water conservation measures will be a condition of approval. All new use permits must meet the threshold water use for the project parcel.

APPENDIX D: Water Meters

If required, water meters shall measure all groundwater used on the parcel. Additional meters may also be required for monitoring the water use of individual facilities or operations, such as a winery, residence, or vineyard located on the same parcel. If a meter(s) is installed, the applicant shall read the meter(s) and provide the readings to the County Engineer at a frequency determined by the County Engineer. The applicant shall also convey to the County Engineer, or his designated representative, the right to access and verify the operation and reading of the meter(s) at any time.

If the meters indicate that the water consumption of a parcel in the M-S-T basin exceeds the fair share amount, the applicant will be required to submit a plan which will be approved by the Director of Public Works to reduce water usage. The applicant may be required to find additional sources of water to reduce their groundwater usage. Additional sources may include using water provided by the City of Napa, the installation of water tanks which are filled by water trucks, or other means which will ensure that the groundwater usage will not exceed the fair share amounts.

The readings from water meters may also be used to assist the County in determining trends in groundwater usage, adjusting baseline water use estimates, and estimating overall groundwater usage in the M-S-T basin.

Appendix E: Determining water use numbers with multiple parcels

The water availability analysis is based on the premise that each landowner has equal right to the groundwater resource below his or her property. There will be cases where one person or entity owns multiple parcels and requests that the total water allotment below all of his or her parcels be considered in the Phase I water availability analysis. Determining the total threshold based on multiple parcels is acceptable, however to protect future property owners, certain safeguards must be in place to ensure that the water allotment and transfer between parcels is clearly documented and recorded, especially in cases where the water from more than one parcel will ultimately serve a use on a single parcel.

When multiple parcels are involved, the parcels for which the total threshold is being based on must be clearly identified on a site plan with assessors parcel numbers noted. The transfer of water from these parcels to the parcel on which the requested use is located must be documented using the form provided by the department of public works. The form must be approved by the County and subsequently recorded by the applicant prior to commencement of any activity authorized by the groundwater permit or other county permit or approval. A condition requiring such will be placed on the use permit, groundwater permit or other permit for approval.

C

Autumn DeWoody
Programs Director
Inland Empire WATERKEEPER
3741 Merced Drive, Unit F2
Riverside, CA 92503

February 2, 2008

Dear Autumn,

As you requested, I have reviewed the document titled *Focused Geohydrologic Evaluation of the Maximum Perennial Yield of the North Shore and Grout Creek Hydrologic Subunit Tributary Subareas*, dated December 2, 2003, prepared by Geoscience Support Services, Inc., for the City of Big Bear Lake Department of Water and Power. The review comments are numbered sequentially as noted:

1. The report presents minimum background information about the purpose and context of the study performed. The report is a follow-up study to a 2001 yield estimate for the watershed. Section 3.2 (page 13) states: "*Previous perennial yield estimates (GEOSCIENCE, 2001) have been based on the assumption that production of water from the bedrock aquifer is not as economically feasible as production of water from the alluvial aquifer.*" Section 5.3.1 (page 28) states: "*For the purposes of this study, however, the bedrock aquifer in the Grout Creek and North Shore Subunits is considered a viable ground water production source and is included in the total perennial yield estimate for the respective subunits.*" Groundwater production from the fractured bedrock will be considerably more expensive because of the higher cost of well installation and likely lower well capacity compared to wells screened in alluvium. The viability of groundwater production from bedrock must be further questioned in the context of existing domestic well construction. If increased production results in water table decline, the yield of existing domestic wells will drop and wells may become dry. Lowering of the water table may also impact the ecosystem in the area; this issue was not addressed in the study and should be part of an ecological impact assessment.
2. The following is the key statement in the report (Executive Summary, Page 6, last paragraph): "*The ground water recharge analysis is based on long-term precipitation records. However, short-term periods (5 to 10 years) of relatively low precipitation have been observed throughout the period of record. These short-term periods of low precipitation are anticipated to have a significant impact on the ground water levels in the North Shore and Grout Creek Hydrologic Subunits because the storage capacity of the ground water reservoir is relatively small. For this reason, future ground water production, and development, in each tributary*

subunit should rely more on established ground water level thresholds than the perennial yield estimates." The groundwater levels will indeed be the decisive indicator of sustainable groundwater use in the tributary areas. Measured groundwater levels throughout the watershed represent the "hard data" that should be used for management decisions. The watershed yield calculations presented in this study are rough estimates that can be useful for comparative ranking of watersheds or their sub-areas, but they should not be depended on for quantitative determination of water availability.

3. The estimate of the potential water yield is based on a model that uses 20 parameters. Of these, only two were site-specific and 18 were taken from the literature (i.e., nation-wide studies by the U.S. Environmental Protection Agency). For these 18 parameters, the study used the means of the ranges of "*typical*" and "*possible*" parameter values. The choice of parameters should be location-appropriate (i.e., elimination of values typical for other climatic settings, etc.). It would be more appropriate to use, for the most sensitive parameters, the maximum and minimum values instead of the mean, and to generate a range of model results.
4. Water management decisions should account for increased runoff and reduced perennial watershed yield resulting from future development (as recognized on page 33).
5. The calculation of outflow (Section 3.2, page 12) was based on aquifer properties estimated from pumping tests and lithologic data. The transmissivity values given on page 27 and saturated thickness values (page 26) correspond to hydraulic conductivity between 0.5 and 2.5 feet per day, indicative of a relatively low permeability aquifer material. The aquifer test analysis was not available for review. Review of these data and conducting aquifer tests to obtain representative estimates of aquifer properties that would allow more accurate calculation of outflow is recommended.

The opinions expressed are my own. I have no financial interest in the subject matter and I have not received any compensation for the review.

Regards,

Tom Perina, Ph.D., P.G.(6636), C.H.G. (572)
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Riverside, CA 92506
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D

Review Comments on Maximum Perennial Yield of the North Shore and Grout Creek Hydrologic Subunit Tributary Subareas

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DATE: January 29, 2008

Preface

On December 2, 2003, Geoscience Support Services, Inc. submitted a report entitled " Maximum Perennial Yield of the North Shore and Grout Creek Hydrologic Subunit Tributary Subareas". This report presents the use of an EPA Hydrological Simulation Progran Fortran (HSPF) watershed model with updated geohydrologic database to evaluate the maximum perennial yield of both the North Shore and Grout Creek Subunits that extend across most of the northern portion of the Big Bear Lake Watershed in the San Bernardino Mountains of western San Bernardino County, California. My review on this report is based on my previous experiences on various hydrology related studies.

Background

Generally, this report has addressed the objective, methodology, and various water budget components for the study of the maximum perennial yield; however, verification of the data adopted for the study area, details of numerical calculations, and calibration of watershed model are not well presented. Accordingly, results derived from this study are subject to large uncertainty and unreliable. Nine (9) comments from the review of this report are listed below.

Comments

1. The EPA HSPF watershed model is adopted in this report for numerical calculation; however, there is no discussion on model calibration. This is a serious problem in the application of any numerical model.
2. The 3rd paragraph in page 2 mentions the boundaries of surface water drainage divides also represent groundwater flow divides. Are there physical evidences or data to support this indecipherable statement?
3. The first paragraph in page 3 mentions that the input parameters are either estimated or assumed because measured field data are not available. Chapter 3.3.2.4 in page 18 further mentions that 18 of the 20 required model input parameters are estimated from EPA published data. I do not see any discussion on the confidence of using these estimated data in the report. In addition, how well these estimated data represent the local-scale spatial variability?

4. This is related to comment 3. This report also mentions that Geoscience did a similar study in 2001. There are some degrees of differences in estimated annual groundwater recharge from both reports, mainly, due to different set of data used. Since many data are assumed in the current report and there is no summary of the 2001 Geoscience report, which report is more representative to the study area?
5. The last paragraph in page 6 mentions future groundwater production and development in each tributary subunit should rely more on established groundwater thresholds due to small storage capacity of the groundwater reservoir. Since there is not reference cited to support this statement, are there hydrogeological data to support this statement?
6. Chapter 3.2 in page 12 describes the estimation of groundwater underflow for an estimate of groundwater recharge. Is this calculation performed by a commercial program? An appendix to detail the underflow calculation in the Grout Creek subunit will help to clarify any question that may arise.
7. I would suggest add a brief discussion on the calculation of annual groundwater recharge using the HSPF model and a summary table of all annual budget terms for the calculation of yields.
8. Chapter 3.3.2.2, the 2nd paragraph in page 17 discusses the estimation of daily precipitation and adjustment factor. How many precipitation stations and data records are available in study area? In addition, the 3rd paragraph in the same page demonstrates the calculation of daily precipitation in Grout Creek Tributary Subarea A. Does that imply a constant daily precipitation applies to the whole Subarea A? In addition, a map showing all weather stations and a table listing precipitation periods of all weather stations are strongly recommended.
9. Chapter 4.3 in page 23 mentions few pumping tests in production wells at various places. I would suggest add a summary table of these pumping tests and hydraulic properties derived from these tests. By the way, a description of the spatial distribution of these hydraulic properties in the study area is also needed.

E

Climate Change Primer

The Natural Climate System

Natural Climate Cycles

In addition to the familiar daily, seasonal, and yearly fluctuations in weather, there are longer term natural variations in the Earth's clima defined as the "average weather," or more specifically, as "the statistical description in terms of the mean and variability of relevant quai time ranging from months to thousands or millions of years" (IPCC 2007). Past variation in the Earth's climate has been cyclical, as oppc following linear trends (fig. 1). It is important to understand this natural cyclical variability in climate when considering and evaluating h change.

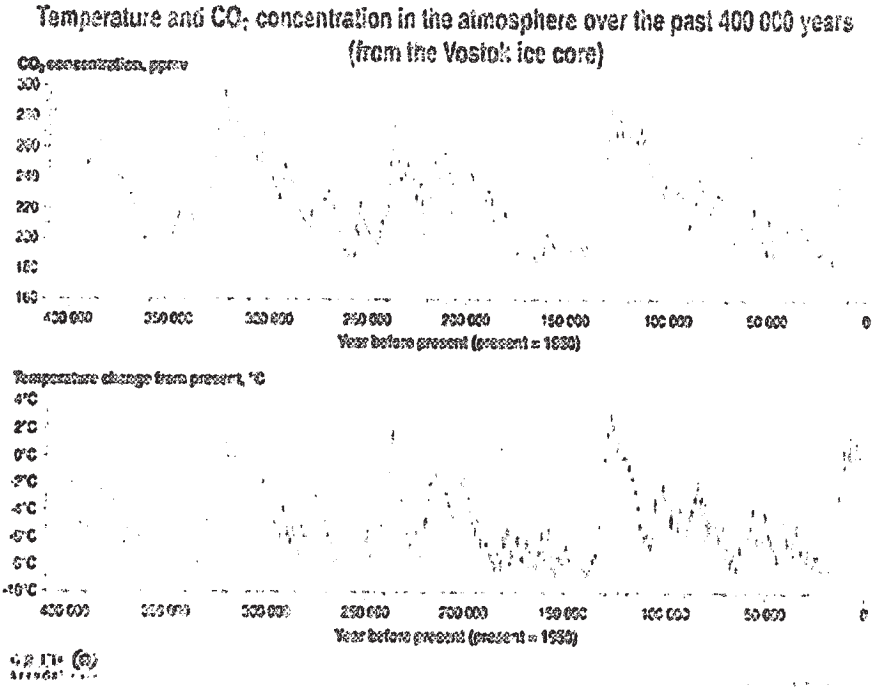

Figure 1—Variation in temperature and CO_2 over the past 400,000 years. Source: Petit et al. 1999.

Cycles in the Earth's climate are nested and on multiple time scales, from year to year (interannual) to decades, centuries, and millennia caused by independent physical mechanisms. Thus, for example, there are major glacial (cold) and interglacial (warm) periods on multir caused by changes in the Earth's orbit around the Sun. Other cycles in the Sun's activity drive climate variations at the century scale. Cy circulation of the oceans and atmosphere lead to decadal (30 to 40 year) patterns, such as the Pacific Decadal Oscillation (PDO), which a North America. Cycles in the ocean-atmosphere system also lead to interannual variations in climate, such as the El-Niño/La Niña cycle (Southern Oscillation). Climate at any one time is an expression of all of these nested mechanisms and cycles operating together.

Multimillennial climate cycles—

Long-term climatic change is driven primarily by changes in solar radiation and atmospheric composition of gases such as CO_2. Variation influence the amount of solar radiation received at the surface. Several parameters of the Earth's orbit change over time, including 1) ec elliptical (versus circular) the Earth's orbit is around the sun; (2) tilt, or the angle of the Earth's tilt on its axis; and (3) precession, a "w rotation, resulting in variation in the time of year when the Earth is closest to the sun. The eccentricity, tilt, and precession of the Earth's of approximately 100,000, 41,000, and 23,000 years, respectively (Chapin et al. 2002) (fig. 2). Together, these variations in the Earth's Milankovitch cycles of solar input. These cycles are strongly associated with the glacial and interglacial cycles over the last 800,000 years from analysis of ocean sediments and ice cores.

The patterns of historical temperature changes associated with the glacial-interglacial cycles are also correlated with changes in atmosph carbon dioxide and methane, two greenhouse gases. Concentrations of carbon dioxide were relatively higher during warm interglacial pe decreased during cold glacial periods (fig. 1). The strong relationship between temperature and greenhouse gases suggests a mechanisti estimated that about half of the glacial–interglacial temperature change is due to greenhouse gas feedbacks (Petit et al. 1999). The pote through the 21st century may be sufficient (at the upper end of the uncertainty bounds) to produce a temperature increase on the magn interglacial cycle (IPCC 2001).

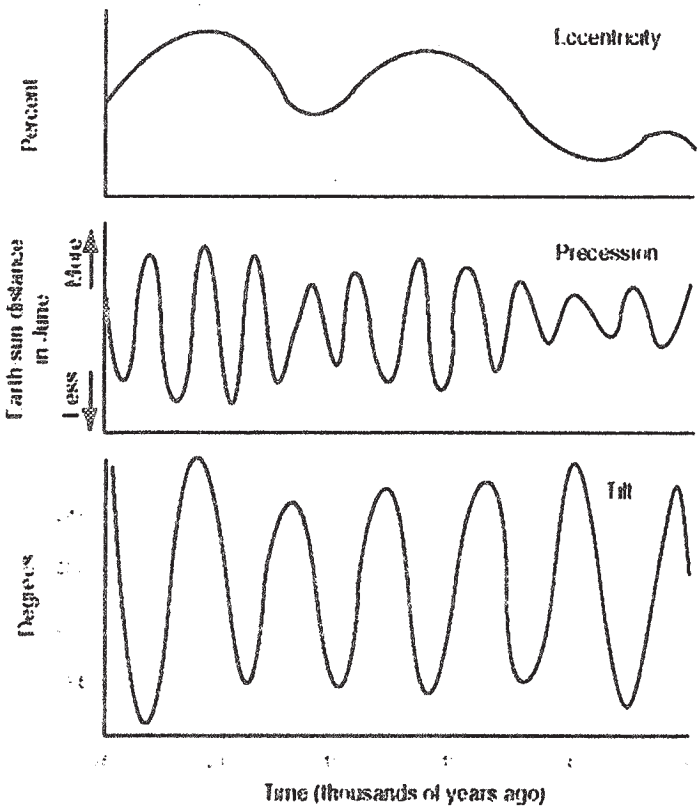

Figure 2—Variation in parameters of the Earth's orbit over the last 250,000 years. Source: Chapin et al. 2001.

Century- to millennial-scale climate cycles—

In addition to multimillennial glacial and interglacial cycles, there are shorter cold-warm cycles that last from 100 to 1,000 years. These "Bond cycles," have been documented for at least the last 130,000 years. The average length of a Bond cycle is 1300 to 1500 years, with phase of the cycle lasting for about 700 years. The Little Ice Age, a global cold period from 1450 to 1920, is an event that is thought to e a Bond cycle (Grove 1988, Overpeck et al. 1997). Like the Milankovitch cycles, the Bond cycles are currently thought to be driven by cha al. 2001).

Interannual- to decadal-scale climate cycles—

The well-known El-Niño Southern Oscillation (ENSO) is a large-scale cyclical change in the atmosphere-ocean system that occurs on inte scales. ENSO events are part of a large-scale air-sea interaction that couples atmospheric pressure changes (the southern oscillation) wit temperature (El-Niño) over the equatorial Pacific Ocean (Chapin et al. 2002). Every few years, hemispheric trade winds that usually blow water in a westerly direction across the Pacific Ocean stall, resulting in warm water accumulating in the eastern Pacific Ocean. This leads temperatures off the shore of North and South America. Each year there is some degree of El Niño, or its opposite effect, La Niña. On ave every 4 to 7 years. El Niño events bring different conditions to different parts of the world. For example, El Niño events result in dry weal Northwest but wet weather in the Southwest U.S. (fig. 3). The reverse occurs during La Niña events.

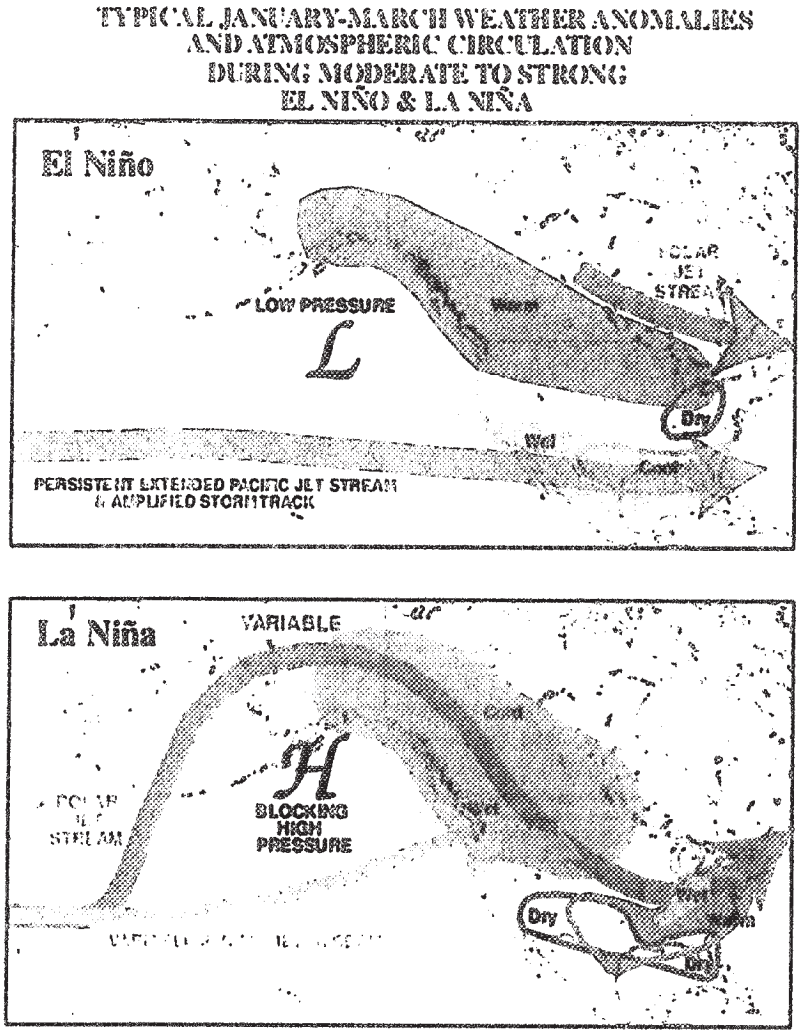

Figure 3—Typical winter conditions in North America during El Niño and La Niña years. Source: NOAA Climate Prediction Center (**http://**
/products/analysis_monitoring/ensocycle/nawinter.shtml)

Recently, climate cycles on multidecadal timescales have also been described. The Pacific Decadal Oscillation (PDO), which affects weste
to be regulated by decadal changes in ocean circulation patterns in the high-latitude Pacific Ocean. The effects of the PDO are similar to I
1997), with warm (positive) phases and cool (negative) phases that last from 10 to 25 years (fig. 4). There are other decadal-scale ocea
affect other parts of the world, such as the North Atlantic Oscillation (NAO).

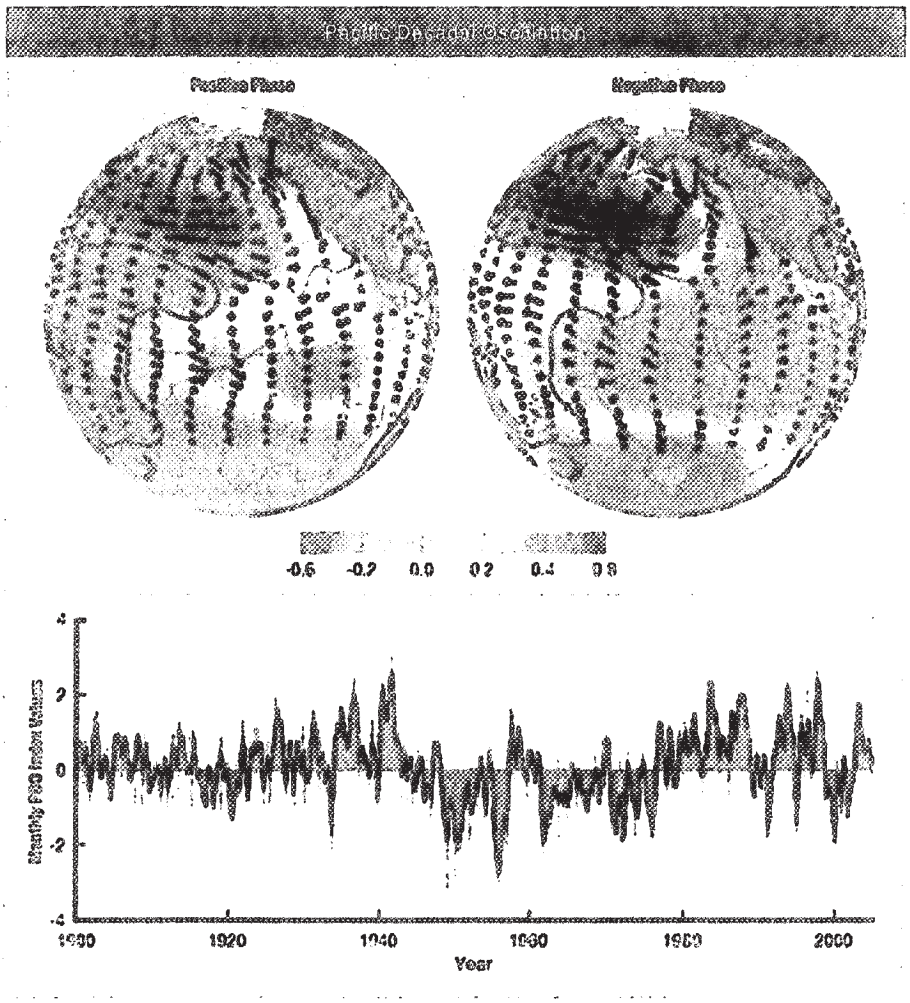

Figure 4—Top: Typical wintertime sea surface temperature (colors), sea level pressure (contours), and surface wind stress (arrows) anom positive and negative phases of the Pacific Decadal Oscillation (PDO). Temperature anomalies (colors) are in degrees Celsius. Bottom: Mo index, 1900-2004. Source: S. Hare and N. Mantua, Climate Impacts Group, Center for Science in the Earth System, Joint Institute for th Atmosphere and Ocean, University of Washington, Seattle.

Climate Mechanisms

Earth's energy budget—

The Earth's energy budget is the balance between incoming and outgoing radiation, which determines the amount of energy available to system (Chapin et al. 2002). About 30 percent of solar radiation that reaches Earth is reflected back into space by clouds, air molecules, Earth's surface. Another 20 percent of incoming solar radiation is absorbed by the atmosphere. The remaining solar radiation reaches the absorbed. The Earth's surface radiates this energy back to the atmosphere in the form of infrared radiation. Most (90 percent) of this infr in the atmosphere by greenhouse gases, such as carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). The energy absorbed b reradiated in all directions. The energy that is directed back towards the Earth's surface contributes to the warming of the planet. This pl greenhouse effect (fig. 5).

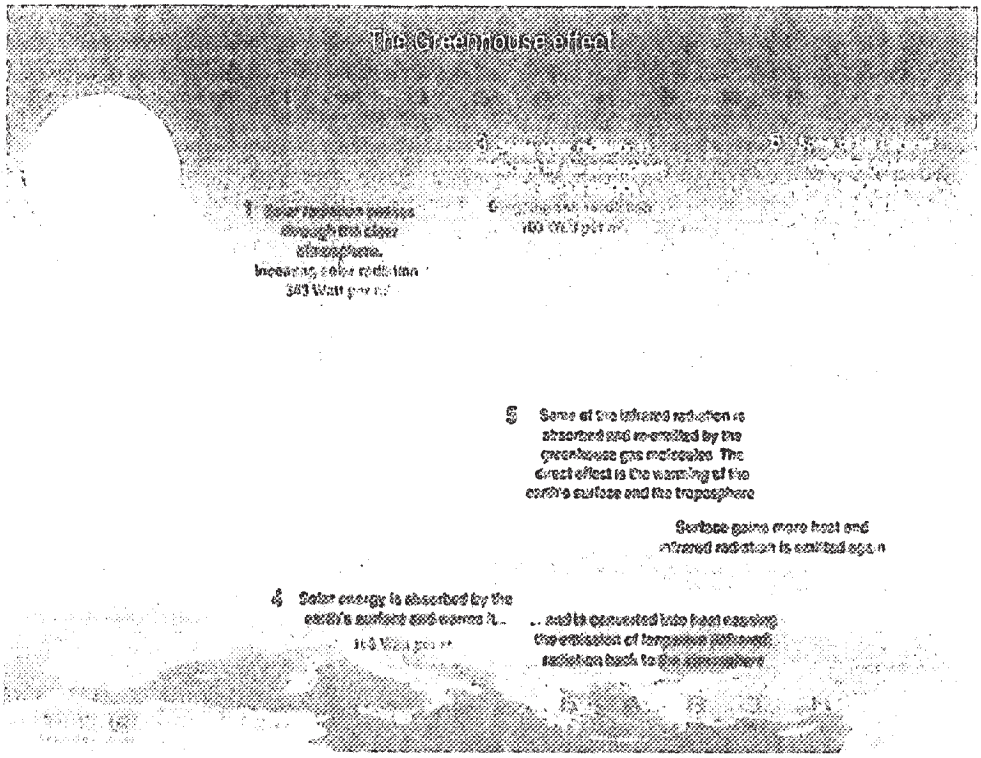

Figure 5—The greenhouse effect. Source: Climate Change 1995, The Science of Climate Change, contribution of working group 1 to the s of the Intergovernmental Panel on Climate Change.

Without the energy-absorbing greenhouse gases in the Earth's atmosphere, the mean temperature at Earth's surface would be about 33 and would probably not support life (Chapin et al. 2002). However, long-term records of the concentration of greenhouse gases in the at atmospheric measurements and ice core analysis) show steep increases in greenhouse gas concentrations since the beginning of the Ind years ago (fig. 6). These unprecedented increases in greenhouse gases are largely due to human activities, such as the burning of fossil activities. As concentrations of greenhouse gases increase, more radiation emitted by the Earth is trapped by the atmosphere, thus enha effect and leading to increased temperatures at the Earth's surface.

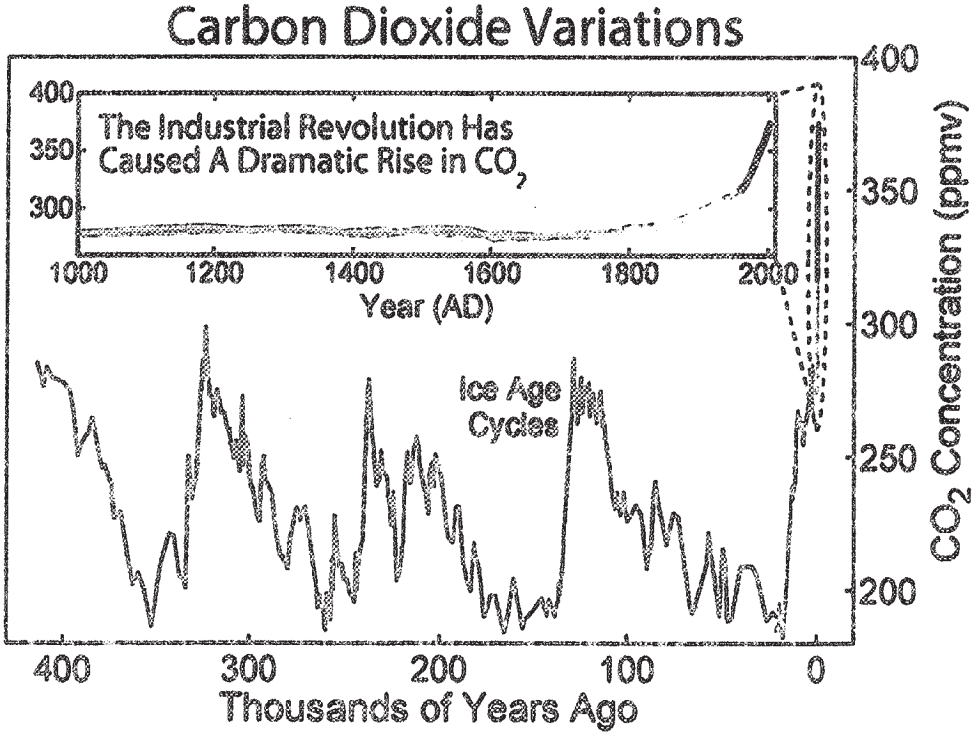

Figure 6—Variations in carbon dioxide concentrations in the Earth's atmosphere over the last 400,000 years. Source: Robert A. Rohde an (**http://www.globalwarmingart.com/wiki/Image:Carbon_Dioxide_400kyr_Rev_png**)

Human influence on climate—

Figure 7—Observed changes in (a) global average surface temperature; (b) global average sea level from tide gauge (blue) and satellite Northern Hemisphere snow cover for March-April. All differences are relative to corresponding averages for the period 1961-1990. Smoot decadal averaged values and circles show yearly values. The shaded areas are the uncertainty intervals estimated from a comprehensive uncertainties (a and b) and from the time series (c). Source: IPCC 2007.

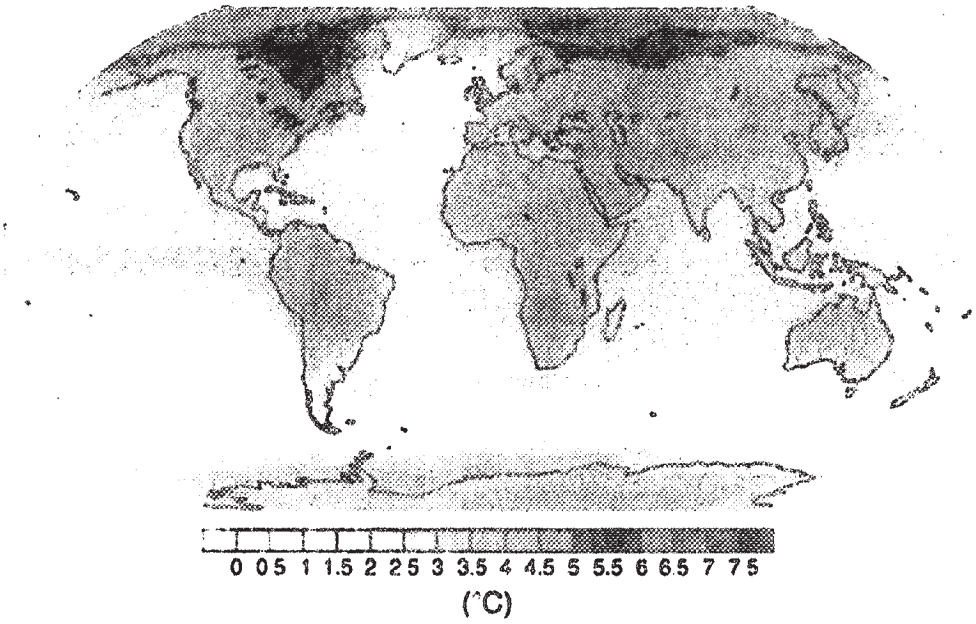

Figure 8—Projected surface temperature changes for the late 21st century (2090-2099). The map shows the multi-AOGCM average proje scenario. Temperatures are relative to the period 1980-1999. Source: IPCC Climate Change 2007.

Effects and Implications of Climate Change in the Western United States

Temperature and Precipitation

Over almost the entire Western United States, there have been increases in both cool season and warm season temperatures between 19 2005, Hamlet et al. 2007) (fig. 9). Although the rate of change varies with location and the time period examined, the warming has beer century over the 1916 to 2003 time period (Hamlet et al. 2007). The rate of increase from 1947 to 2003 is roughly double that of the lor 2003, and much of the observed warming has occurred from about 1975 to present.

Temperature increases in the west over the next century are expected to range from 2 to 3 °C at the low end of the uncertainty range to end of the uncertainty range (IPCC 2007, Miles et al. 2007). Beyond mid-century, future warming is dependent on greenhouse gas emis: decades, which are dependent on human activities.

There have been increases in winter (November-March) precipitation since 1930 over much of the Western United States, although patte different regions (Mote et al. 2005) (fig. 9). Precipitation changes in the West over the next century are complex and more uncertain tha Expected changes in precipitation patterns differ by region. Summer rains in the Southwest may intensify and shift to the North. Winter the Southwest but increase in the northern half of the West (Salathé 2006). Interannual and interdecadal variability via El Niño-La Niña ((Timmermann et al. 1999), producing extreme winter events in both the Southwest and the Northwest.

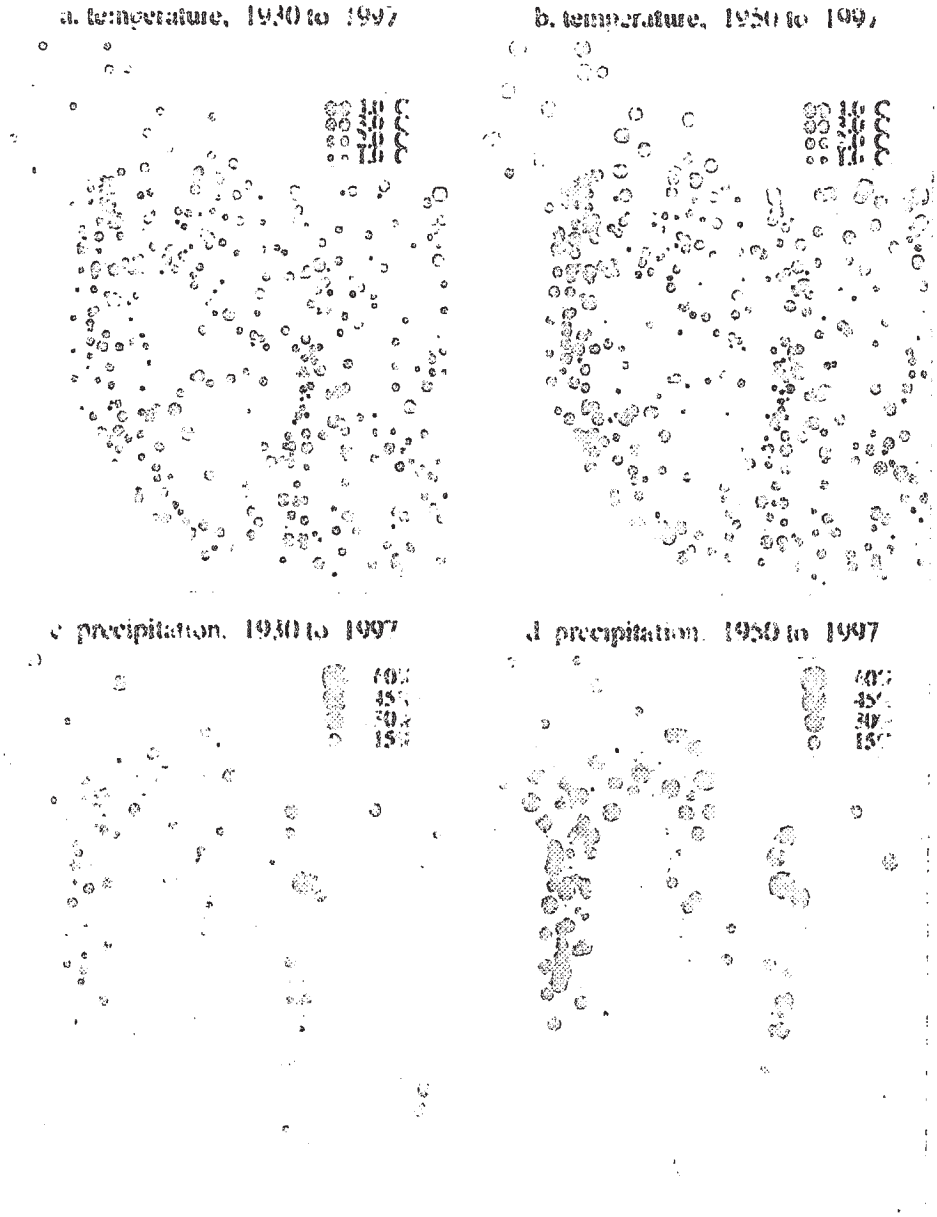

Figure 9—Linear trends in November-March (a), (b) temperature and (c), (d) total precipitation of the period indicated for the Western U For temperature, negative trends are indicated by blue circles, and positive trends are indicated by red circles; values are given in degre For precipitation, trends are given as a percentage of the starting value (1930 or 1950), and positive trends are shown as blue circles. S

The Hydrologic Cycle

In the Western United States, increased temperatures have led to more precipitation falling as rain rather than snow, earlier snowmelt a streamflow (Stewart et al. 2005, Hamlet et al. 2007), and reduced spring snowpack (Mote 2003, Mote et al. 2005, Barnett et al. 2008) (mountainous regions of the Western United States, snowmelt provides approximately 70 percent of annual streamflow (Mote et al. 2008) rain (as opposed to snow) and shifts to earlier spring snowmelt result in greater winter and spring streamflows and reduced summer stre dominated and transient (rain/snow) watersheds (fig. 11). This reduction in summer streamflow could have major implications for fisher and agriculture, particularly in drier regions. The current and expected future trends in hydrology suggest a coming crisis in water supply States (Barnett et al. 2008).

Increased temperatures may also result in decreased soil moisture in arid regions of the Western United States (Miles et al. 2007). Chan expected to differ by region. In the Pacific Northwest, it is expected that mountainous regions will have 80 percent or less of historical av while arid regions will have 90 to 95 percent of historical soil moisture (Miles et al. 2007).

Warmer temperatures and higher rates of evapotranspiration with climate change in some areas, such as the Southwest United States, w drought frequency and severity. Overall, drought-affected areas are projected to increase in extent (IPCC 2007). Although increased tem to decreased runoff in some areas, increased frequency of heavy precipitation events will likely lead to increased flood risk in many regio snowmelt and runoff owing to increased temperatures could also lead to increased winter and spring flooding.

Figure 10—Changes in April 1 snow water equivalent in the Western United States. Linear trends in April 1 snow water equivalent (SWE) snow course locations in the Western United States and Canada for the period 1950-1997. Negative trends are shown by red circles and SWE is a common measurement for the amount of water contained in snowpack if it were melted instantaneously. Sources: Mote et al. 2

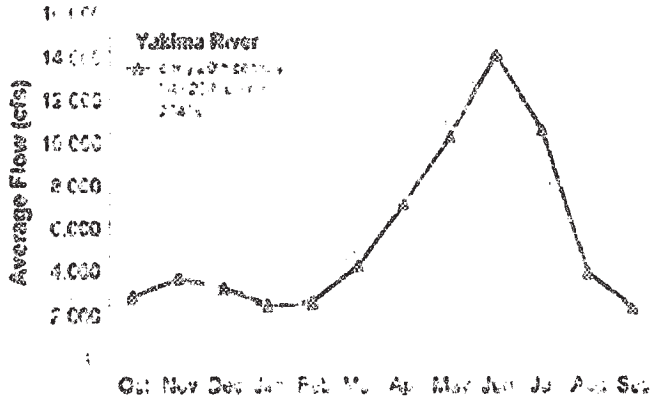

Figure 11—Winter precipitation sensitivity and projected changes in monthly streamflow for the Yakima River basin in Washington State. 2005.

Ecosystem Function and Process

Climate controls ecosystem structure and processes such as species distribution and abundance, regeneration, vegetation productivity ai disturbance, including insects, and fire. Increasing temperatures and changes in precipitation with climate change will impact both ecos ecosystem processes. This section highlights some of potential effects of climate change on vegetation, wildlife and ecosystem disturban

Vegetation—

Abundance and distribution of plant species shift individualistically in response to climate fluctuations. Plant species respond according t constraints and water constraints. For example, regeneration of tree species increases with changes in limiting factors, such as snowpack season, and summer soil moisture levels. Thus, with increasing temperature, regeneration of species in high-snow environments will like regeneration of species in drier, lower elevation environments will likely decrease.

Tree growth and productivity will also change with increasing temperatures. Lower snowpacks, and longer growing seasons may result in productivity in subalpine forests. However, forest productivity may decrease in lower elevation forests owing to water limitations.

With increased temperatures in the Western United States, the highest and coldest alpine (tundra) zones will likely contract significantly temperate forest zones (primarily conifer dominated) will likely shift up in elevation helping to squeeze the high-elevation zones into sm sensitive vegetation of the subtropical zone, including oaks and other woody and ephemeral species, will also likely expand up in elevatic expansion of southern species could result in a contraction of the Great Basin shrublands.

Water constraints will have complex effects on vegetation distribution in the Western United States. Although precipitation may increase evapotranspiration with increased temperatures may lead to increased water stress. However, higher concentrations of carbon dioxide in reduce water stress. Changes in frequency and severity of fire may also influence vegetation distribution. Model simulations of western v

future climate change show a shifting of the water-limited boundaries, such as between closed forest and open tree-savanna, further dov northern half of the West (north of the Oregon-California border) (Bachelet et al. 2001) (fig. 12). Other water-limited vegetation in these pine and juniper woodlands, is expected to expand (Bachelet et al. 2001) (fig. 12). In the Southwest, winter precipitation may decrease, precipitation might increase. With the benefit of increased water use efficiency from elevated CO_2 concentrations, lower ecotones might s At the lower elevations, the reduction in winter precipitation may limit woody vegetation. Increased summer precipitation would benefit grasslands.

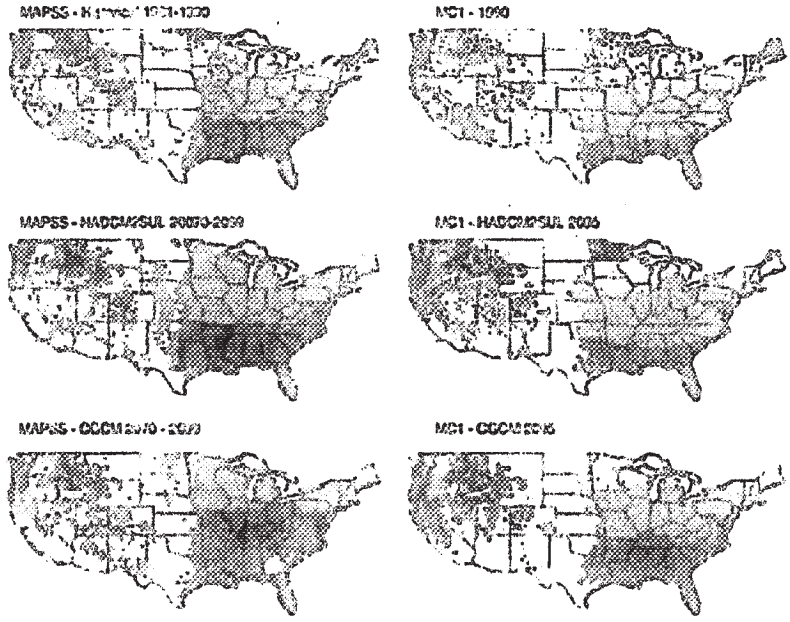

Figure 12—Potential vegetation distribution simulated by the Mapped Atmosphere-Plant-Soil System (MAPSS) model and a dynamic moc conditions (historical for MAPSS and 1990 for MC1) and for future conditions (2070-99 for MAPSS and 2095 for MC1) under two future sc CGCM1. Source: Bachelet et al. 2001.

Wildlife—

Viability of a species is dependent on the availability of suitable habitat. Animal species respond to climate variability in the short term tl geographic range (migration) when suitable habitat is not available in the former range. Mortality and population extirpation in parts of a often occur. Over time, extirpation and colonization events cumulatively result in shifts of the species' distribution range (Davis and Shav Delcourt 1991).

Species distributions have already changed in response to climate change in the Western United States. For example, the northern boun skipper butterfly (*Atalopedes campestris*) has moved from California to Washington State (420 miles) over a 35-year period (Crozier 200 Studies show that winter cold extremes determine the northern range limit (Crozier 2003, 2004).

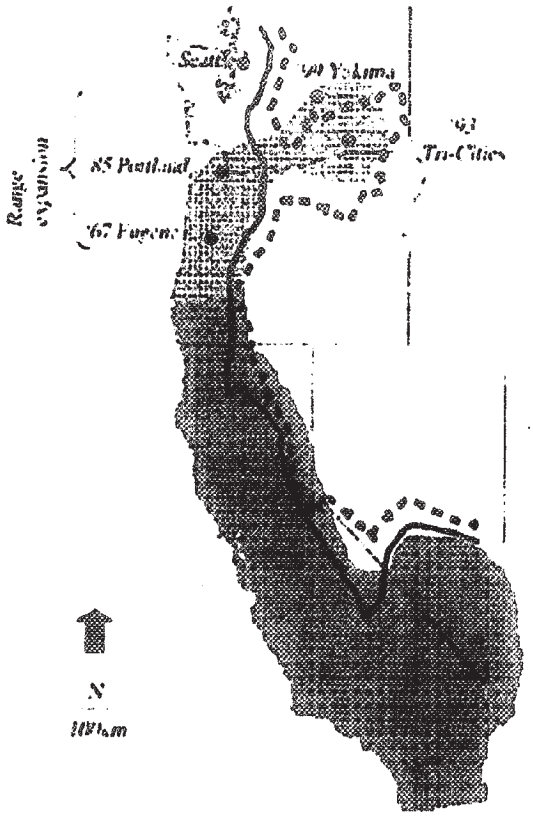

Figure 13—Overwintering range of the sachem skipper butterfly (shaded) in Washington, Oregon, California, and Nevada from Opler (19 the western range expansion (lighter shading). Colonization by the sachem skipper butterfly in four cities in Oregon and Washington sho range expansion. Contour lines represent the January average minimum -4 °C isotherm 1950-1999 (solid) and 1990-1998 (dotted) (NCI 2003.

Changes in phenology, or timing of life history events, of both plant and animal species with climate change could influence wildlife. For 1.4 °C rise in local temperatures at the Rocky Mountain Biological Laboratory in Colorado between 1975 and 1999, yellow-bellied marmot emerged from hibernation 23 days earlier. However, the flowering plant phenology did not shift in that time period. Thus, the change in the relative phenology of marmots and their food plants (Inouye et al. 2000). Shifts in prey behavior could similarly influence predator s

Population extinctions have occurred in the Western United States in response to increasing temperatures over the last few decades. In t being recorded in the 1930's, 7 out of 25 recensused populations of the pika (Ochotona princeps) were extinct (Beever et al. 2003). Ther disturbance in the high-elevation pika habitat. It was observed that extinct populations were those that had been at significantly lower e populations still present (Parmesan and Galbraith 2004). Experiments show that adult pikas are sensitive to high temperatures (Smith 1

Land-use changes, urban development, and introduction of invasive species often impede the ability of species to respond to climate cha instance, many land-use changes impose barriers to species' migration to favorable new environments; small population sizes and isolat result of landuse impede gene flow, and landscape fragmentation reduces corridors for movement (Joyce et al., in press).

Fire—

Widespread fire years and fire extent are associated with warmer and drier spring and summer conditions in the Western United States (Westerling et al. 2006, Heyerdahl et al. 2008, Taylor et al. 2008). Warmer spring and summer conditions lead to relatively early snowme and fuel moisture, and thus longer fire seasons (Westerling et al. 2006). Increased temperatures and drought occurrence in some locatic warming will likely lead to increased fire frequency and extent. Intensity of fires may also increase in some areas if higher temperatures characteristics to increase fire intensity.

Insects—

Insect outbreaks may become more frequent and widespread because warmer temperatures may accelerate insect life cycles. Winter mi temperatures are forecasted to increase faster than maximum temperatures through the 21st century. This release of winter constraints increasing survival rates for insect larva and accelerating adult reproduction rates, thus leading to increased insect outbreaks. For examp beetle (Dendroctonus ponderosae) has invaded higher elevations and latitudes and significantly expanded its range in British Columbia c constraints (fig. 14). Thus, many forests that have historically never experienced these infestations are now being severely threatened a threatened in the future.

In addition to effects of increased temperatures on insect life cycles, increased temperatures will also increase drought stress of some fo making some forests more susceptible to insect infestation. In addition, insect infestations can interact with fire. Recently burned forests susceptible to insect damage. In turn, dead and weakened trees that have been infested with insects increase fire risk.