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Re: Mitigated Negative Declaration for
San Bruno Mountain Habitat Conservation Plan
Amendment #5

September 7th, 2009

Mr. Sam Herzberg:

I, Joe Cannon am commenting on the negative declaration for the San Bruno Mountain Habitat Conservation Plan Amendment #5, Initial Study/ Mitigated Negative Declaration, August 2009. To start I will briefly review my education background and experience in restoration planning, implementing and monitoring that inform by comments listed below. Upon receiving a MS in ecology, I worked seven years for the National Park Service and its sister non-profit the National Parks Conservancy planning and implementing and monitoring four habitat restoration projects. The first project I worked on was focused on restoration and monitoring of the mission blue butterfly and its habitat. I worked directly with the National Park's monitoring consultant who at the time Thomas Reid and Associates and determined that the presents/absents method they were using to monitor the butterfly population would not offer year to year comparable data. Working with the monitoring protocol developed by the Center for Conservation Biology at Stanford, I helped lay out the new monitoring transects to monitor the mission blue butterfly population. I also planned, implemented and monitored two other restoration projects involving an endanger plant, the San Francisco Lessingia, and an endangered bird species, the California clapper rail.

I have implemented a creek and upland restoration project on the saddle of San Bruno Mountain over the past four years and am currently working on two restoration projects for San Bruno Mountain Watch. I am also a member of the San Bruno Mountain Technical Advisory Committee for the current HCP and have attended most all of the meeting since it was reconvened in 2006. I am currently the president of the San Bruno Mountain Conservancy which was formed to support restoration and community based stewardship on San Bruno Mountain.

It is my opinion based on my review of the documents and my experience and background that development on the northeast ridge of San Bruno Mountain, even as mitigated, may have a significant adverse impact on the long term survival of the endangered callippe silverspot. This is due to the well established fact (Pg.2 San Bruno Mountain Habitat Management Plan 2007, personal communication Technical Advisory Committee 2006-2009) that the only food plant for the callippe silverspot butterfly *Viola pedunculata* (*Viola*) has yet to be successfully propagated despite repeated attempts.

*"While habitat islands have been created for the mission blue butterfly, and can be created for the San Bruno elfin butterfly, it is unknown if the habitat island approach is appropriate for the callippe silverspot butterfly. The callippe relies on much larger areas (minimum of several acres) that consist of large colonies (i.e. several hundred plants or more) of its host plant *Viola pedunculata* in combination with topographic high points. Due to the high cost and difficulty of propagating *viola*, restoration of callippe habitat at this time is likely better served through large*

scale brush removal that opens up grassland habitat and allows for natural recruitment of viola." (Pg.2 San Bruno Mountain Habitat Management Plan 2007)

There is also no evidence that if the barrier to propagating the viola is surmounted that it can be successfully outplanted, survive and establish a viable population that will attract and support the callippe silverspot butterfly population. Destroying intact and functioning habitat of this listed species knowing that currently after numerous attempts that no new habitat has not been restored, it is unclear on what bases these impacts can or will be mitigated or even how much money would be required to do so.

Restoration of butterfly habitat as defined by the San Bruno Mountain Habitat Management Plan 2007, as *"areas where both invasive species control and replanting of native species is conducted"* has been attempted numerous times for the mission blue butterfly in the form of habitat islands.

According to the San Bruno Mountain Habitat Management Plan 2007 overall since 1982 on San Bruno Mountain including this additional proposed project *"approximately 360 acres would be developed, and approximately 270 acres would be temporarily disturbed through development activities and restored to native habitat."*

Given these documented impacts that over 25 years of HCP funded habitat management as mitigation only 2.5 acres of Mission Blue butterfly habitat has been actually restored and shown to have mission blue butterfly present and that no new habitat has been restored for the Callippe silverspot. (personal communication with contractors at TAC meetings)

"Within the conserved habitat, establishment of butterfly habitat (primarily mission blue) has been created" "As of 2007, five HCP habitat islands have been established, and three of these sites have had documented mission blue butterfly utilization." (San Bruno Mountain Habitat Management Plan 2007 Page VI-4)

"While habitat islands have been created for the mission blue butterfly, and can be created for the San Bruno elfin butterfly, it is unknown if the habitat island approach is appropriate for the callippe silverspot butterfly. The callippe relies on much larger areas (minimum of several acres) that consist of its host plant, Viola pedunculata, and near topographic high points. Due to the high cost and difficulty of propagating Viola, restoration of callippe habitat is likely better served through large scale brush removal that opens up grassland habitat and allows for natural recruitment of Viola." San Bruno Mountain Habitat Management Plan 2007 Page VI-4

In the absence of significant butterfly habitat restoration success, despite numerous attempts, simply slowing the loss of habitat has not and will not mitigate for the permanent destruction or temporary disturbance of these endangered butterflies habitat.

Upon review of the last 25 years of endangered butterfly habitat management on San Bruno Mountain as part of the original HCP, has lead me to conclude that the proposed development may have a significant impact of the long term survival of the Callippe silverspot butterfly on San Bruno Mountain. The actions proposed in the negative declaration and Habitat Management Plan, 2007 are unlikely to adequately mitigated these proposed impacts due to the limited success in past management of these endangered species' habitat.

All that has been achieved by 25 years of HCP funded management of the three endangered butterflies' habitat is a reduction in the rate of loss of already conserved habitat, and there is currently no evidence to support that this has not and will not offset or compensate for increased take of intact butterfly habitat or increased loss of habitat connectivity from further proposed take of the endangered butterfly's habitat on the Northeast ridge.

“While the core endangered species’ habitat on the Mountain has been protected from invasive species over the span of the HCP, the success of this work has been attenuated by the observed landscape level changes that are occurring from: 1) the expansion of coastal scrub over grassland areas, especially on north-facing slopes; and 2) the influx and expansion of herbaceous and grass weeds within the native grasslands, especially on dryer and lower elevation slopes.” (Habitat Management Plan, 2007 Pg 2)

Part of the uncertainty in the current “stable” status of the three endangered butterflies on the mountain comes from a review of butterfly monitoring on San Bruno Mountain was done by Longcore, et.al., 2004. This report characterized the monitoring from 1982 through 2000 by stating that the *“Managers surveyed for sensitive butterfly species with the San Bruno Mountain Habitat Conservation Plan area between 1982 and 2000 using a haphazard wandering transect.” “The wandering transects violates most tenets of survey design. It is convenience sampling providing no replication for comparison.” “Such a methodology presents immediate difficulties for drawing statistical inference or even detecting qualitative trends.”*

A second report Longcore, T. 2004, stated that *“while some information can be extracted from the “wandering surveys” conducted on San Bruno Mountain, a more rigorous survey design is necessary to allow managers to draw statistically significant inferences about the status of the butterflies and their responses to management actions.”*

Although *“relative abundance (using set transects from 1998 – 2007) of the federally endangered mission blue and callippe silverspot butterflies”* has been done, data has not been collected with this method long enough to indicated a discernable positive or negative trend.

“An analysis of the set transect data for mission blue and callippe silverspot has been done annually on the set transect data included in the San Bruno Mountain annual reports over the past seven years. Results have indicated no discernable positive or negative trend in butterfly abundance at this time, however a minimum of eight years is needed before reliable trends (if present) can be detected.” (Page VIII-3 San Bruno Mountain Habitat Management Plan 2007)

The majority of the efforts over the past 25 years of the current HCP have focused almost exclusively on the elimination of woody perennial invasives such as gorse, broom, and fennel from already conserved habitat. (Habitat Management Plan 2007) This almost exclusive reliance on large woody invasive control has done little to slow the ongoing loss of the endanger butterfly’s’ grassland habitat to scrub succession or the widespread invasion of non-native perennial forbs and annual grasses within the grassland habitat of the host plants.

“Between 1982 and 2004, San Bruno Mountain lost an estimated 122 acres (8.6%) of grassland habitat primarily as a result of coastal scrub succession within the HCP conservation area.” (San Bruno Mountain Habitat Management Plan 2007) Approximately 5 acres of grassland are converting to coastal scrub per year, and it is anticipated that this process will continue. (San Bruno Mountain Habitat Management Plan 2007 Page III-3)

“Specific areas within the conserved habitat however have shown significant negative trends in butterfly occupancy (Longcore, 2004). The areas where negative trends were identified are primarily within grassland areas that have succeeded to native coastal scrub on lower elevation north facing slopes” (San Bruno Mountain Habitat Management Plan 2007)

The past 25 years of management has failed to address the ongoing loss of butterfly habitat due to native habitat succession. There is currently no evidence to support that continued management of conserved habitat can mitigate habitat loss due to ongoing succession can be achieved in the future.

Although the Habitat management Plan of 2007 proposes to focus future management activities to attempt to address the ongoing threats posed by scrub succession and non-woody invasive species, none of these management approaches has been successfully achieved or has been shown to result in establishing functioning butterfly habitat.

Additionally, upon review the negative declaration it is my opinion that the mitigations for the incidental take permit may not adequately mitigate the impacts of the expanded development of the Northeast ridge in regards to the likely impacts to habitat connectivity and fragmentation.

The current development footprint and associated disturbance on the Northeast Ridge eliminates the critical callippe hilltop habitat and their food plant *Viola pedunculata* plants that would otherwise provide a crucial dispersal link between the remaining conserved habitat to the east of the development and the remaining callippe silverspot habitat on the rest San Bruno Mountain.

One of these impacts is an increase in habitat fragmentation and isolation of the remaining butterfly population by the proposed development lying between the proposed conserved habitat on the hills east of the proposed development and the rest of the mountain's habitat and Callippe populations. Habitat fragmentation has been shown in numerous butterfly species to increase the likelihood of extirpation.

"The callippe silverspot butterfly is also vulnerable to the effects of habitat fragmentation. Further reduction of population size and genetic interchange among populations through isolation, genetic drift, and inbreeding depression, may result in less vigorous and adaptable populations of the callippe silverspot butterfly. Small isolated populations are vulnerable to extinction from random fluctuations in population size or variations in population characteristics (e.g., sex ratios) caused by annual weather patterns, food availability, and other factors." (LSA, 2004)

Further the negative declaration states that "the remaining narrow section of habitat along the edge of the homes (south of Guadalupe Canyon Parkway) ranges from 87 to 250 feet in width, so callippe silverspot would have to locate this passageway after it has been restored from temporary construction disturbance". An HCP that covers the callippe silverspot population in the east bay states that "partial barriers are posed by burned areas and major roads four lanes or more wide because some butterflies will cross them while others will not." (LSA, 2004)

The HCP on page III-29 states that habitat corridors "could range from 50 to 500 feet wide depending on the length" and "should have a width-to-length ratio of at least 1:2" However this "corridor" runs along the four lane Guadalupe Canyon Parkway and the topography of the mountain is such that this area acts as a wind tunnel. Additionally because as stated above the current inability to propagate the viola would mean that this area would not be restored to habitat that would attract the butterflies across this long windy narrow roadside. In addition to the limits placed on the callippe butterfly's dispersal, the north east ridge's mission blue populations know to have a far more limited dispersal range will be additionally impacted due to the narrow and limited road side corridor resulting from the project as proposed.

"Hilltops and ridges play an important role in callippe breeding behavior and the this species has been documented to congregate on hilltops and ridgelines to find members of the opposite sex and mate, a behavior referred to as "hilltopping". Hilltopping occurs most notably when population numbers are low in number or individuals are dispersed; this behavior aids in mate location and to increase mating success. Most observations of the callippe silverspot butterfly have been made on hilltops; this is the case at the two major San Bruno Mountain colonies. At the Southeast Ridge colony, 75 percent of the observed individuals were on ridgetops and higher elevations of steep, north facing slopes (Thomas Reid Associates 1982). Hilltops and ridge lines are integral components of callippe silverspot butterfly habitat. Losing hilltops from habitat areas likely decreases the

amount of successful mate location and genetic mixing over the long-term. Urban development, along with invasive exotic plants, are the primary causes of the decline of the callippe silverspot butterfly because these two factors degrade, destroy, and fragment its habitat.” (San Bruno Mountain Habitat Management Plan 2007)

In view of the foregoing, it is my scientific opinion that the project, even as mitigated, may have a significant adverse or cumulative impact on the callippe silverspot butterfly population on San Bruno Mountain. In the absence of evidence as to the probability of successful restoration of callippe butterfly habitat, given the documented ongoing losses of habitat from non-woody invasive weeds and scrub succession, and given the inability of past attempts to propagate its viola food plant, the finding of no significant impact appears unsupported by the above listed reasons from reports listed below and referenced above.

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