

***Final***

**Low-Effect Habitat Conservation Plan for the  
Mount Hermon June Beetle and Ben Lomond Spineflower  
at the Tinkess Parcel (APN: 067-411-39)  
near Scotts Valley, Santa Cruz County, California**



***Prepared by:***

Jodi McGraw, Ph.D.  
*Population and Community  
Ecologist*  
PO Box 883  
Boulder Creek, CA 95006  
(831) 338-1990  
jodimcgraw@sbcglobal.net

***Prepared for:***

Mr. Richard Tinkess  
Mrs. Carolyn Tinkess  
700 Sugar Pine Road  
Scotts Valley, CA 95066  
(831) 438-1578

***Submitted to:***

Ms. Diane K. Noda  
Field Supervisor  
US Fish and Wildlife Service  
2493 Portola Road, Suite B  
Ventura, CA 93003

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# Executive Summary

## Executive Summary

Richard and Carolyn Tinkess are seeking an incidental take permit, under Section 10(a)(1)(B) of the Federal Endangered Species Act, to cover take of the Mount Hermon June beetle (*Polyphylla barbata*) resulting from construction of a single family home and associated hardscapes at their 0.44-acre vacant parcel (APN: 067-411-39) located at 680 Sugar Pine Drive, near the City of Scotts Valley in the unincorporated, central portion of Santa Cruz County, central coastal California.

A 3-year permit term is requested to address incidental impacts to the federally endangered Mount Hermon June beetle associated with construction of a single-family home, patio, walkway, and driveway. The impacts of the project would include permanent impacts to Mount Hermon June beetles potentially living within the 5,856 ft<sup>2</sup> (0.134 acre) area to be disturbed during construction activities. Of the 5,856 ft<sup>2</sup> (0.134 acre) area of potential habitat on the site that will be disturbed, 5,217 ft<sup>2</sup> (0.120 acre) will be permanently removed through construction of the single family home and associated hardscapes elements. The remaining 639 ft<sup>2</sup> (0.015 acre) will be landscaped using elements designed to not deter use of habitat by Mount Hermon June beetle, such that the impacts on habitat will be temporary.

The Mount Hermon June beetle is a fossorial insect that lives in Zayante soils, which support unique communities known as the Zayante (or Santa Cruz) Sandhills (Sandhills). Though several other special status plants and animals are known to occur within the Sandhills, only the Mount Hermon June beetle and Ben Lomond spineflower occur within the project parcel. The endangered annual herb is not anticipated to be impacted by the project, which will be constructed away from where it occurs on the parcel.

Due to the project's small size and occurrence within an area of high density residential development that is of marginal long term conservation value, the project is not anticipated to significantly impact the persistence of the Mount Hermon June beetle population within the Whispering Pines neighborhood, or the persistence of the species as a whole.

This plan's conservation strategy includes the following measures designed to minimize the project's impacts on the Mount Hermon June beetle and the Ben Lomond spineflower:

1. Avoid impacts to Ben Lomond spineflower by locating the project disturbance envelope in the south and central portion of the parcel where the plant does not occur.

2. Periodically remove non-native plants from the Ben Lomond spineflower occurrence.
3. Avoiding the flight season, if at all possible, and using erosion control fabric to prevent Mount Hermon June beetles from burrowing into exposed soil in the construction site when/if soil disturbing activities occur between May and August.
4. Having a qualified biologist translocate any larval beetles unearthed during construction activities to a portion of the project site outside of the impact area that supports intact vegetation.
5. Using motion-activated outdoor night lighting, which will minimize disruption of Mount Hermon June beetle breeding behavior during the adult flight season.
6. Minimizing hardscaping and avoiding landscaping elements that degrade habitat for Mount Hermon June beetle.

In addition, the applicants will mitigate both the temporary and permanent loss of habitat resulting from the construction project through off-site mitigation at a ratio of 1:1. To accomplish this, a total of 5,856 square foot conservation credits will be purchased from the Zayante Sandhills Conservation Bank—a conservation bank that conserves, manages, and monitors large, high quality Sandhills habitat preserves that have high conservation value for the Mount Hermon June beetle and other Sandhills species. The conservation credits will be purchased following receipt of the incidental take permit and prior to the inception of any project activities that would cause take, including soil disturbance.

The applicant will fund all other elements of the proposed conservation strategy. Upon completion of the project, a qualified biologist will conduct compliance monitoring to evaluate success toward the biological goals and objectives, and adherence to the proposed minimization measures. Biological effects monitoring will be used to quantify the impact of the project on Mount Hermon June beetle individuals and habitat. Results of this monitoring will be provided to the U.S. Fish and Wildlife Service in a project report.

## Section 1

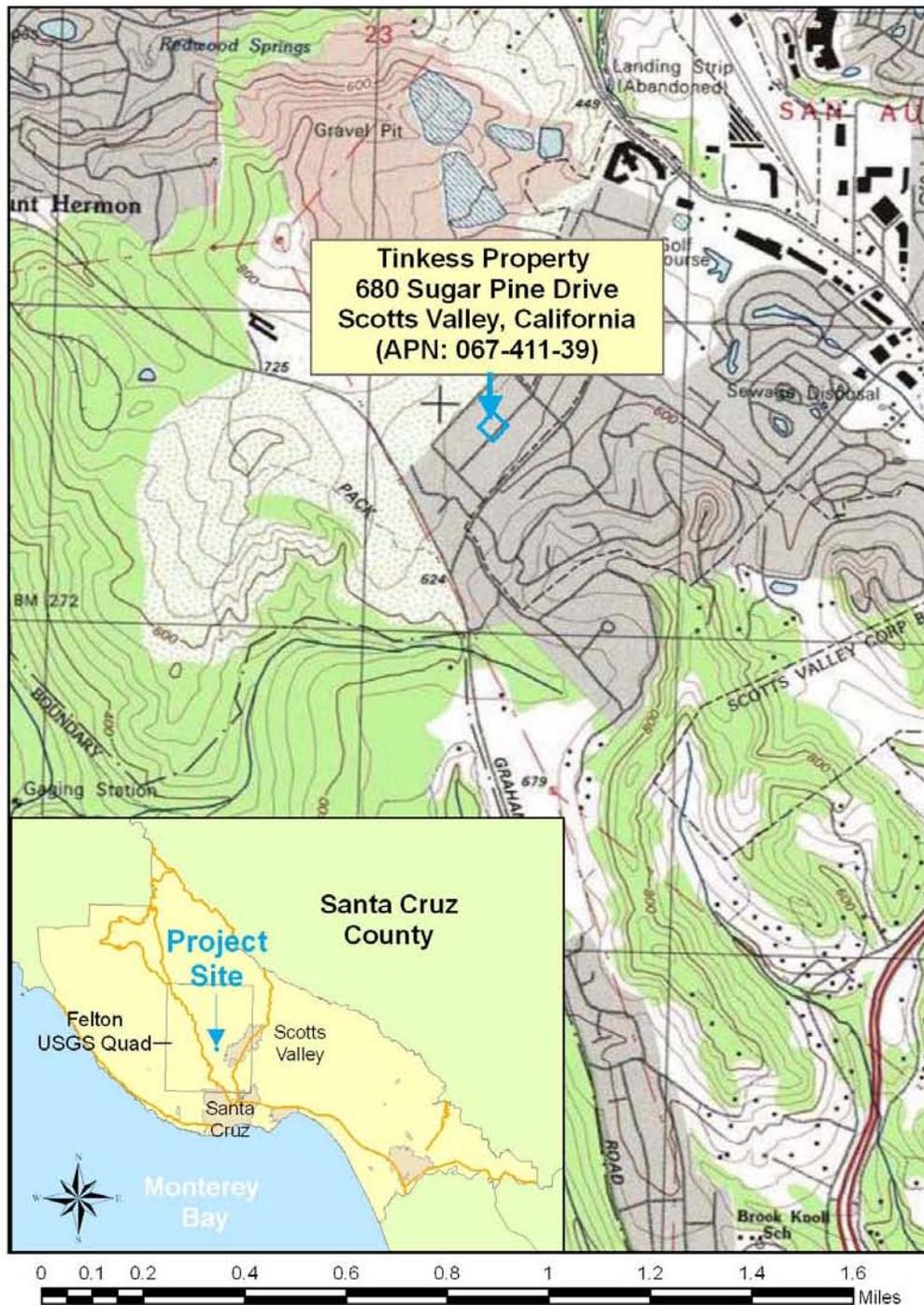
# Introduction and Background

### 1.1 Overview and Background

This Habitat Conservation Plan (HCP) for the proposed construction of a single family home at 680 Sugar Pine Drive, a 0.44-acre home site near the City of Scotts Valley, Santa Cruz County, California, has been prepared pursuant to the requirements of Section 10(a)(1)(B) of the Federal Endangered Species Act of 1973, as amended (Act). The HCP is intended to provide the basis for issuance of a Section 10(a)(1)(B) permit to Richard and Carolyn Tinkess, the property owners, to authorize incidental take of the Mount Hermon June beetle (*Polyphylla barbata*), a federally-listed endangered species, that may result from construction of a single family home and associated improvements on the vacant parcel. In May 2007, a qualified biologist determined that the project site contains Zayante soils, and therefore supports potential habitat for the federally endangered insect. The project site also supports a small occurrence of the federally endangered Ben Lomond spineflower (*Chorizanthe pungens* var. *hartwegiana*) (Appendix A).

### 1.2 Permit Holder/Permit Duration

Richard and Carolyn Tinkess request an incidental take permit to cover take of Mount Hermon June beetle for 3 years commencing on the date of permit approval. Project construction is anticipated to require less than one year. However, seasonal limitations on development may delay project inception following permit issuance. For this reason, 3-year permit duration is requested to ensure that the covered activities will be implemented during the term of the permit.



**Figure 1:** Location of proposed project site (Tinkess Property) within the Felton US Geological Survey Quadrangle in central Santa Cruz County, just west of the City of Scotts Valley. Map prepared by Jodi M. McGraw.

### 1.3 Permit Boundary/Covered lands

A permit is requested to authorize the incidental take of Mount Hermon June beetle within the project area on a 0.44-acre Tinkess Property (APN: 067-411-39) located at 680 Sugar Pine Drive near the City of Scotts Valley in an unincorporated portion of Santa Cruz County in central coastal California (Figure 1). The project site is located within the Felton 7.5" United States Geological Survey (USGS) topographic quadrangle, in Township 10S, Range 2W, Section 23 of the Mount Diablo Meridian.

### 1.4 Species to be Covered by Permit

The following species are referred to as a "covered species" related to the Incidental Take Permit if it is issued.

<u>Covered Species</u>	<u>Federal Status/State Status</u>
Mount Hermon June beetle ( <i>Polyphylla barbata</i> )	Federally Endangered
Ben Lomond spineflower ( <i>Chorizanthe pungens</i> var. <i>hartwegiana</i> )	Federally Endangered

The following additional federally endangered species that occur with the Mount Hermon June beetle at other locations will not be addressed in this HCP or covered under the requested Incidental Take Permit as they do not occur at the project site due to a lack of suitable habitat (J. McGraw, pers. obs. 2007; Appendix A, Appendix B):

<u>Additional Species</u>	<u>Federal Status/State Status</u>
Zayante band-winged grasshopper ( <i>Trimerotropis infantilis</i> )	Federally Endangered
Santa Cruz (Ben Lomond) wallflower ( <i>Erysimum teretifolium</i> )	Federally Endangered/ CA State Endangered

## 1.5 Regulatory Framework

### 1.5.1 Federal Endangered Species Act

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Harass is defined by the U.S. Fish and Wildlife Service (Service) as an intentional or negligent act or omission that creates the likelihood of injury to listed species by annoying them to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity.

Pursuant to section 11(a) and (b) of the Act, any person who knowingly violates section 9 of the Act or any permit, certificate, or regulation related to section 9, may be subject to civil penalties of up to \$25,000 for each violation or criminal penalties up to \$50,000 and/or imprisonment of up to one year.

Individuals and State and local agencies proposing an action that is expected to result in the incidental take of federally listed species are encouraged to apply for an incidental take permit under section 10(a)(1)(B) of the Act to be in compliance with the law. Such permits are issued by the Service when take is not the intention of and is incidental to otherwise legal activities. An application for an incidental take permit must be accompanied by a HCP. The regulatory standard under section 10 of the Act is that the effects of authorized incidental take must be minimized and mitigated to the maximum extent practicable. Under Act section 10, a proposed project also must not appreciably reduce the likelihood of the survival and recovery of the species in the wild, and adequate funding for a plan to minimize and mitigate impacts must be ensured.

Section 7 of the Act requires Federal agencies to ensure that their actions, including issuing permits, do not jeopardize the continued existence of listed species or destroy or adversely modify listed species' critical habitat. "Jeopardize the continued existence of..." pursuant to 50 CFR 402.2, means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species. Issuance of an incidental take permit under section 10(a)(1)(B) of the Act by the Service is a Federal action subject to section 7 of the Act. As a Federal agency issuing a discretionary permit, the Service is required to consult with itself (i.e., conduct an internal consultation). Delivery of the HCP and a section 10(a)(1)(B) permit application initiates the section 7 consultation process within the Service.

The requirements of section 7 and section 10 substantially overlap. Elements unique to section 7 include analyses of impacts on designated critical habitat, analyses of impacts on listed plant species, if any, and analyses of indirect and cumulative impacts on listed species. Cumulative effects are effects of future State, tribal, local or private actions that are reasonably certain to occur in the action area, pursuant to section 7(a)(2) of the Act. The action area is defined by the influence of direct and indirect impacts of covered activities. The action area may or may not be solely contained within the HCP boundary. These additional analyses are included in this HCP to meet the requirements of section 7 and to assist the Service with its internal consultation.

### **1.5.2 The Section 10(a)(1)(B) Process - Habitat Conservation Plan Requirements and Guidelines**

The Section 10(a)(1)(B) process for obtaining an incidental take permit has three primary phases: (1) the HCP development phase; (2) the formal permit application processing phase; and (3) the post-issuance phase.

During the HCP development phase, the project applicant prepares a plan that integrates the proposed project or activity with the protection of listed species. An HCP submitted in support of an incidental take permit application must include the following information:

- impacts likely to result from the proposed taking of the species for which permit coverage is requested;
- measures that will be implemented to monitor, minimize, and mitigate impacts; funding that will be made available to undertake such measures; and procedures to deal with unforeseen circumstances;
- alternative actions considered that would not result in take; and
- additional measures USFWS may require as necessary or appropriate for purposes of the plan.

The HCP development phase concludes and the permit processing phase begins when a complete application package is submitted to the appropriate permit-issuing office. A complete application package consists of: 1) an HCP, 2) an Implementing Agreement (IA), 3) a permit application, and 4) a \$100 fee from the applicant. An implementing agreement is not required for an HCP that qualifies as a low-effect HCP. The Service prepares an Intra-Service Section 7 Biological Opinion; and also prepares a Set of Findings, which evaluates the Section 10(a)(1)(B) permit application in the context of permit issuance criteria (see below). An Environmental Action Statement, Environmental Assessment, or Environmental Impact Statement serves as the Service's record of compliance with the National Environmental Policy Act (NEPA). The Service must publish a Notice of Availability of the HCP package in the Federal Register to allow for public comment. The draft NEPA document, HCP, and IA (if applicable) are made available for public review during this 30-day to 90-day comment period. A Section 10(a)(1)(B) incidental take permit is granted upon a determination by that all requirements for permit issuance have been met. Statutory and regulatory

criteria for issuance of the permit, pursuant to section 10(a)(2)(b) of the Act and 50 CFR 17.22 (b)(2) and 17.32 (b)(2) specify that:

- the taking will be incidental;
- the impacts of incidental take will be minimized and mitigated to the maximum extent practicable;
- adequate funding for the HCP and procedures to handle unforeseen circumstances will be provided;
- the taking will not appreciably reduce the likelihood of survival and recovery of the species in the wild;
- the applicant will provide additional measures that the Service requires as being necessary or appropriate; and
- the Service has received assurances, as may be required, that the HCP will be implemented.

During the post-issuance phase, the Permittee and other responsible entities implement the HCP, and USFWS monitors the Permittee's compliance with the HCP as well as the long-term progress and success of the HCP. The public is notified of permit issuance by means of the Federal Register.

### **1.5.3 National Environmental Policy Act**

The purpose of the National Environmental Policy Act (NEPA) is two-fold: to ensure that Federal agencies examine environmental impacts of their actions (in this case deciding whether to issue an incidental take permit) and to utilize public participation. NEPA serves as an analytical tool on direct, indirect, and cumulative impacts of the proposed project alternatives to help the Service decide whether to issue an incidental take permit (ITP or section 10(a)(1)(B) permit). NEPA analysis must be done by the Service for each HCP as part of the incidental take permit application process.

### **1.5.4 National Historic Preservation Act**

All Federal agencies are required to examine the cultural impacts of their actions (e.g. issuance of a permit). This may require consultation with the State Historic Preservation Office (SHPO) and appropriate American Indian tribes. All incidental take permit applicants are requested to submit a Request for Cultural Resources Compliance form to the Service. To complete compliance, the applicants may be required to contract for cultural resource surveys and possibly mitigation.

### **1.5.5 California Endangered Species Act (CESA)**

The California Endangered Species Act (CESA) provides for the designation of native species or subspecies of fish, wildlife, and plants as endangered or threatened (CESA Section 2062-2067). Neither the Mount Hermon June beetle nor the Ben Lomond spineflower are listed under CESA. Therefore, this HCP will not further address CESA

permitting requirements.

### **1.5.6 California Environmental Quality Act (CEQA)**

The California Environmental Quality Act (CEQA) (Pub. Res. Code §21000 seq.) requires state and local governmental agencies to complete an environmental review of discretionary projects that could impact environmental resources. CEQA differs from NEPA in that it requires that significant environmental impacts of proposed projects be reduced to a less-than significant level through adoption of feasible avoidance, minimization, or mitigation measures unless overriding considerations are identified and documented.

### **1.5.7 County of Santa Cruz Sensitive Habitat Ordinance**

The County oversees a Sensitive Habitat Protection Ordinance that is designed to minimize disturbance in sensitive habitats and to protect these areas for their genetic, scientific, and educational values. The County defines a “sensitive habitat” as “any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments” (County of Santa Cruz 1994). Sensitive habitats include, but are not limited to, areas where sensitive species live, areas necessary for the survival of sensitive species, and any location where disturbance is likely to lower population numbers. Based on the findings of a biotic review, the County may require the project proponent to avoid, minimize, and mitigate impacts to the sensitive habitat by: (1) limiting the portion of sensitive habitat to be disturbed; (2) deeding an easement to protect undisturbed portions of this habitat; (3) restoring portions of degraded sensitive habitat; and/or (4) restricting land uses.

Sites that are occupied by the Mount Hermon June beetle are protected under the Sensitive Habitat Protection Ordinance. The conservation strategy developed in this plan, which includes measures to avoid, minimize, and mitigate impacts to the Mount Hermon June beetle and Ben Lomond spineflower as required in this incidental take permit, will overlap with requirements under the Sensitive Habitat Protection Ordinance. The County has sole authority to determine whether project proponents have complied with this Ordinance. However, the conservation strategy presented here is based on the preservation and long-term management of Zayante Sandhills habitat through the acquisition of conservation credits that should therefore be sufficient to fulfill the requirements of the Sensitive Habitat Protection Ordinance.

## Section 2

# Project Description/Activities Covered by Permit

### 2.1 Project Description

Richard and Carolyn Tinkess are seeking to construct a new, single family home and associated improvements on a currently vacant, approximately 19,000 ft<sup>2</sup> (0.44 acre) parcel near the City of Scotts Valley in central Santa Cruz County, California. Table 1 lists the size of the individual project components included in the project.

**Table 1: Size of proposed residential development project components.**

Project Component	Size	
	square feet	Acres
single-family home	4,069	0.0934
patio & walkways	128	0.0029
driveway	1,020	0.0234
<b>Total</b>	<b>5,217</b>	<b>0.1198</b>

### 2.2 Activities Covered by Permit

An incidental take permit is requested to cover impacts to the Mount Hermon June beetle that could result from the following aspects of this project:

- construction of the new, single family residence
- construction of a new patio and paved walkways
- construction of a paved driveway

Construction would begin by grading, within the building footprint, a limited portion of the already level parcel. After grading, which would require no more than one week to complete, the concrete slab and perimeter foundation will be poured during an approximately one week period. Four weeks following inception of the project, the subfloor will be constructed and the

area to be permanently hardscaped will be covered with rock, thus completely covering the area of open soil that will be permanently covered by the improvements. After this initial four-week period, soil within the development footprint will no longer be exposed.

Framing will take place during an approximately 6-12 week period, after which roof will be established in approximately one week. Work to construct the home interior will require an additional eight weeks, after which time the hardscapes including driveway, patio, and paved walkways will be created during a two week period. As a result, the entire project is anticipated to require no more than 30 weeks; however, project delays could result in an extended period of take.

The covered activities are further described in Section 4.1, which assess their impacts on the covered species.

## Section 3

# Environmental Setting/Biological Resources

## 3.1 Environmental Setting

### 3.1.1 Climate

Located in central Santa Cruz County, the project area experiences a mediterranean climate, characterized by cool, wet winters and hot, dry summers. Summer temperatures range from 45°F to 95°F, with an average of 68°F. Winter temperatures range from 36°F to 65°F, with an average of 51°F.

Annual precipitation is 44 inches, with most falling as rain. The rainy season is from October to May, with the majority of the rainfall occurring between December and March.

### 3.1.2 Topography/Geology

The project site is located on the gentle, southeast-facing slope of Mount Hermon—an 890 foot tall hill east of the City of Scotts Valley and west of the town of Felton. The elevation at the project site is approximately 623 feet above mean sea level.

The soil in the area of the proposed project is a light gray, loose sand soil characteristic of the Zayante series, which is an excessively well drained, low nutrient soil derived from the weathering of marine sediments and sandstones of the Santa Margarita Formation (U.S. Department of Agriculture 1980).

### 3.1.3 Hydrology/Streams, Rivers, Drainages

The project site is located within the Bean Creek subwatershed of the San Lorenzo River Watershed. Bean Creek flows on the north slope of Mount Hermon, approximately 0.93 miles north of the project site.

The project area is within upland habitat and not within a flood zone or alluvial fan.

### 3.1.4 Existing Land Use

The proposed project will occur on a 0.44-acre vacant parcel located within a high density residential development just west of the limits of the City of Scotts Valley. Developed beginning in the early 1960's, the 373 acre neighborhood known as Whispering Pines in which the property is located contains 892 parcels that average 0.38 acres in size, 837 (94%) of which are already developed, primarily with single family homes. On its west, east, and north are developed parcels less than 0.5 acre in size, each of which features a single family home (Figure 2).

The proposed project parcel is 230 feet southeast of intact habitat within a buffer area surrounding the Hanson Quarry, and 1,100 feet east of Sandhills habitat protected within Henry Cowell State Park (Figure 2).

## 3.2 Covered Species

### 3.2.1 Mount Hermon June beetle (*Polyphylla barbata*)

#### Status and Distribution

The Mount Hermon June beetle is a member of the family Scarabaeidae (Insecta: Coleoptera; Figure 3). The Mount Hermon June beetle was listed as federally endangered on January 24, 1997 (62 *Federal Register* 3509; Service 1997). Critical habitat has not been designated for this species.

The Mount Hermon June beetle occurs in association with Zayante sand soil in central Santa Cruz County. Outcroppings of Zayante soils support a unique ecosystem known as the Zayante (or Santa Cruz) Sandhills (Sandhills). Within the Sandhills, the Mount Hermon June beetle has been recorded from approximately 150 locations in the vicinity of Mount Hermon, Felton, Ben Lomond, Zayante, and Scotts Valley (Arnold 2004).

While the entire known range of the Mount Hermon June beetle encompasses 10,000 acres, suitable habitat for the endangered insect is only known to occur within approximately 2,800 acres (McGraw 2004b) of that area. The amount of habitat which is presently occupied by the Mount Hermon June Beetle is unknown.



**Figure 2:** Location of proposed project site (Tinkess Property) near Scotts Valley, showing known occurrences of the Mount Hermon June beetle (BUGGY 2004). Map prepared by Jodi M. McGraw.

## Habitat Characteristics

The Mount Hermon June beetle occurs in the various plant assemblages or communities of the Sandhills, including those that could be broadly categorized as coast range ponderosa pine forest and northern maritime chaparral. In addition, the Mount Hermon June beetle has been found in areas where native Sandhills plant species have been removed, such as recently disturbed areas, and in areas covered by ornamental or other non-native plant species, including areas that have been converted for residential use (Arnold 2004).

## Occurrence within the Project Area

Presence/absence surveys have not been conducted to definitively document Mount Hermon June beetles within the project parcel. However, prior surveys have identified Mount Hermon June beetles in four separate locations within 400 feet of the project parcel (BUGGY 2004). In addition, Mount Hermon June beetles occur within the intact habitat atop within located 1,100 feet west of the project parcel in Henry Cowell State Park (Figure 2).

Habitat suitable for Mount Hermon June beetle occurs throughout the project parcel, which features loose, sand soil conducive to burrowing. Though vegetation clearing associated with fire prevention activities has likely degraded habitat for Mount Hermon June beetle, the parcel features native vegetation that could provide host plants for the endangered beetle. The parcel contains scattered coast live oaks (*Quercus agrifolia*) and a single pacific madrone (*Arbutus menziesii*) within a matrix of herbaceous plant species. Though dominated primarily by non-native ruderal species, the parcel also supports herbs and subshrubs native to the Sandhills including California poppy (*Eschscholzia californica*), Ben Lomond spineflower (*Chorizanthe pungens* var. *pungens*), and silver bush lupine (*Lupinus albifrons* var. *albifrons*).

## Life History

The Mount Hermon June beetle is univoltine (i.e., has only one generation per year). The majority of the life cycle of the Mount Hermon June beetle occurs beneath the soil surface. Though little research has been conducted on below-ground stages of the life cycle of the Mount Hermon June beetle (e.g., eggs, larvae, pupae, and portions of the adult stage), information can be cautiously inferred from other species of *Polyphylla* that are well-studied, including the tenlined June beetle (*Polyphylla decemlineata*).

The life cycle of the Mount Hermon June beetle is estimated to require two to three years. After mating during the summer, adult females lay eggs beneath the soil



**Figure 3:** Mount Hermon June beetle adult male (left) and larva (right). Photographs by Jodi McGraw.

surface on, or in close proximity to, host plant roots. Eggs hatch into larvae that feed on roots of host plants. As the larvae grow, they molt from first to second, and finally third instars. Third instar larvae pupate below the soil surface, and eventually male and female adults emerge from pupae. Adult emergence and seasonal activity often begins in May and continues through about mid-August (activity period). However, seasonal activity may vary from year to year depending on weather conditions (Arnold 2004).

During the summer, adult Mount Hermon June beetles are active between approximately 7:00 p.m. and 10:00 p.m., with peak activity usually between 8:45 p.m. and 9:30 p.m. At dusk, adult males emerge from the soil, fly up through herbs and shrubs, and then fly low to the ground in search of flightless females, which emerge from the soil but remain on the surface of the ground and can be found by males which sense their pheromones. After mating occurs on the soil surface, females burrow underground where they presumably lay eggs.

A seasonal capture-recapture study suggested that adult males live no longer than eight days and that most males have home ranges of less than a few acres (Arnold 2001). The maximum dispersal distance documented for adult male Mount Hermon June beetles is 923 feet (Arnold 2000). Similar data on lifespan and dispersal of females are lacking at this time because they are so infrequently observed.

The Mount Hermon June beetle can be distinguished from three congeners (species of the same genus) which also occur in central Santa Cruz County by the presence of relatively dense, long, erect hairs that are scattered over the elytra (leathery forewings), and short erect hairs on the pygidium (last abdominal segment) (Young 1967, 1988).

Adult males are typically 20 millimeters (mm) long and 9.7 mm wide, while the slightly larger females are approximately 22 mm long and 12 mm wide (Hill 2006).

### 3.2.2 Ben Lomond Spineflower

#### Description and Conservation Status

The Ben Lomond spineflower is a small annual herb of the buckwheat family (Polygonaceae). It can grow up to 10 inches high, but more typically grows no more than a few inches above ground. Flower clusters and associated structures are pink with small distinct heads. Whorls of bracts below the flowers are 0.06 to 0.09 inch long and have pink margins (Figure 4).

The Ben Lomond spineflower was listed as federally endangered on February 4, 1997 (59 *Federal Register* 5499). Critical habitat has not been designated for the Ben Lomond spineflower.



**Figure 4:** Ben Lomond spineflower inflorescence (left) and patch of plants (right). Photographs by Jodi McGraw.

#### Distribution and Habitat Requirements

The Ben Lomond spineflower is endemic to the Sandhills and restricted to sandy soils of the Zayante series. Specifically, the Ben Lomond spineflower requires sandy soils in open, sparsely vegetated areas (McGraw and Levin 1998, McGraw 2004a,b). The core of current and historical populations of the species occurs in the vicinity of Mount Hermon, Felton, Ben Lomond, Zayante, Scotts Valley, and Bonny Doon. Population sizes vary widely from year to year due to interannual variability in climate, particularly rainfall (McGraw 2004b). No information is available regarding the current or historical

number of populations.

### **Life History**

The Ben Lomond spineflower is a short-lived annual species. Seeds germinate in late fall after the first substantial rains. Plants form a basal rosette of leaves in the winter, bolt in late February and early March, flower March-May, then seed between June and July. (McGraw and Levin 1998, McGraw 2004a, McGraw 2004b). In open habitat, the Ben Lomond spineflower can reach seedling densities of hundreds to thousands per square meter (Kluse and Doak 1999; McGraw 2004b). When in bloom, the Ben Lomond spineflower often appears as a spreading mat of small, showy, pink flowers.

### **Occurrences within the Project Area**

During the spring of 2007, the Ben Lomond spineflower was observed within an approximately 10 foot by 15 foot (150 ft<sup>2</sup>) area in the northeastern corner of the project parcel near the northern fence line. This area features bare sand soil caused by pocket gophers or perhaps other digging mammals. Such soil disturbances create opportunities for the Ben Lomond spineflower to establish, survive, and reproduce in areas within Sandhills habitat that are otherwise dominated by competitive, non-native herbaceous plants (McGraw 2004a, 2004b). Thirty-eight plants were observed aboveground in the occurrence, though additional plants may be found in the belowground seed bank (McGraw 2004b).

Observations of the adjacent parcels to the north and east indicate that the spineflower occurrences, and indeed appropriate habitat, is limited to the area within the Tinkess Parcel. The adjacent parcel to the north features dense growth of fruiting ornamental trees and turf grass, while the parcel to the east has a small shed, paved walkway, and ornamental trees adjacent to the Tinkess property.

## **3.3 Other Sandhills Endangered Species in Region**

The Sandhills communities support other special status plant and animal species, including three additional federally endangered species (Table 2). However, the project parcel does not support occurrences of these species. Though the moderately sparse nature of vegetation indicated some potential for Zayante band-winged grasshopper to occur on the parcel, the endangered insect was not observed during a three-day presence/absence survey conducted on the property during the summer adult activity period (Appendix B). The small-size of the open habitat, which is surrounded by dense development and vegetation, would naturally limit the ability of the site to support an occurrence of the endangered grasshopper.

The Ben Lomond wallflower was also not observed on the project parcel during the initial habitat assessment conducted during the spring flowering period (Appendix A). The dense cover of non-native herbs likely contributes to the species absence from the site, and might similarly restrict the distribution of the Ben Lomond buckwheat—an endemic herb that does not occur on the project parcel but occurs in patches of intact habitat Sandhills habitat within and surrounding the Whispering Pines neighborhood. Similarly, silverleaf manzanita, which also occurs within some undeveloped parcels in the Whispering Pines neighborhood, does not occur on the project site (Appendix A).

**Table 2: Special status species occurring within the Santa Cruz Sandhills.**

Common Name	Scientific Name	Status
Mount Hermon June beetle	<i>Polyphylla barbata</i>	Federally Endangered
Zayante band-winged grasshopper	<i>Trimerotropis infantilis</i>	Federally Endangered
Ben Lomond spineflower	<i>Chorizanthe pungens</i> var. <i>hartwegiana</i>	Federally Endangered; CNPS 1B (most rare, threatened, or endangered) <sup>1</sup>
Ben Lomond wallflower	<i>Erysimum teretifolium</i>	Federally Endangered; California Endangered; CNPS 1B
silverleaf manzanita	<i>Arctostaphylos silvicola</i>	CNPS 1B
Ben Lomond buckwheat	<i>Eriogonum nudum</i> var. <i>decurrens</i>	CNPS 1B

<sup>1</sup> California Native Plant Society *Inventory of Rare and Endangered Plants of California* (CNPS 2003)

## Section 4

# Potential Biological Impacts/Take Assessment

### 4.1 Direct and Indirect Impacts

#### Direct Impacts

The proposed project has the potential to directly negatively impact Mount Hermon June beetles by causing mortality of individuals in and the project's disturbance footprint, and by causing both permanent and temporary habitat loss. It also has the potential to reduce the occurrence of Ben Lomond spineflower through direct trampling or habitat degradation.

#### Permanent Habitat Loss

Permanent loss of habitat for the Mount Hermon June beetle and Ben Lomond spineflower will result from the construction of the single-family home and associated hardscapes (patio, walkway, and driveway) (Table 3).

**Single-Family Home:** Construction of the new 4,069 ft<sup>2</sup> single family home will permanently remove 4,069 ft<sup>2</sup> (0.093 acres) of potential habitat for Mount Hermon June beetle. This area currently supports herbaceous plants dominated by non-native grasses and forbs including wild oats (*Avena barbata*), rough cat's ears (*Hypochaeris radicata*), smooth cat's ears (*H. glabra*), and filaree (*Erodium cicutarium*). Native forbs include the disturbance-adapted telegraph weed (*Heterotheca grandiflora*). This area does not support the Ben Lomond spineflower. Though non-native herbs might degrade habitat for Mount Hermon June beetle, the endangered insect could still potentially use this area.

**Table 3: Temporary and permanent impacts to Mount Hermon June beetle habitat resulting from components of the proposed project, calculated by subtracting the area of non-habitat (i.e. pre-existing porch or cement walkway) from the size of the project.**

Project Component	Area of Habitat Disturbed (Square feet)			acres
	permanent	temporary	total	
single-family home (footprint)	4,069	0	4,069	0.0934
patio and walkway	128	0	128	0.0029
driveway	1,020	0	1,020	0.0234
soil disturbance caused by digging around perimeter of footprint of permanent impacts (house and hardscapes)	0	639	639	0.0147
<b>Total</b>	<b>5,217</b>	<b>639</b>	<b>5,856</b>	<b>0.1344</b>

**Patio and Walkway:** A small patio adjacent to the back entrance to the house, and a paved walkway leading from the driveway to the front entrance of the home will together cover 128 ft<sup>2</sup> (0.003 acres). This area current supports moderately dense herbaceous plant cover similar to that which located in the area of the proposed single family home (described above). It does not support the Ben Lomond spineflower, but could provide habitat for the Mount Hermon June beetle.

**Driveway:** This project will construct a concrete driveway and turn around area adjacent to the single family home. The 48 foot long driveway, which will provide access to the home from Sugar Pine Drive, will cover 1,020 ft<sup>2</sup> (0.023 acres) of habitat that currently features a herbaceous plants similar in species composition to those occurring in the house footprint (described above). The driveway area does not support the Ben Lomond spineflower but could provide habitat for the Mount Hermon June beetle.

#### Temporary Habitat Loss

**Digging** In order to install the perimeter foundation of single family home and associated hardscapes will disturb soil within one foot of the building footprint, creating a total of 639 ft<sup>2</sup> (0.015 acres) of soil disturbance. Like the project footprint, the perimeter that will be disturbed does not support Ben Lomond spineflower but could support Mount Hermon June beetles, which would be impacted by digging. Following construction, the perimeter will be replanted with landscape elements that will not deter use by Mount Hermon June beetle. Thus, while the impacts to Mount Hermon June beetles within the soil at the time of the digging will be permanent, the impact of digging on Mount Hermon June beetle habitat will be temporary.

## Indirect Effects

Indirect impacts are effects caused by covered activities that may occur at a different time or in a different place than the direct impacts. The project is designed to avoid indirect effects for the plan species.

### Mount Hermon June Beetle

To prevent disruption of Mount Hermon June beetle breeding behavior, outdoor lights installed over the front and rear entrances of the house will be motion-activated and set to remain illuminated for only 10 seconds. This will prevent males dispersing to breed during the flight season (May – August) from being attracted to the light rather than seeking females, thus avoiding disruption of breeding.

If construction occurs during the flight season, any exposed soil will be covered before 7 p.m. each night with erosion control fabric, to prevent dispersing males from burrowing into soil within the project area and then being impacted by ongoing construction.

### Ben Lomond Spineflower

The Ben Lomond spineflower occurrence could be negatively impacted by increased invasion of non-native plant species or disruption of natural pollinator activity. To prevent these impacts, the area supporting Ben Lomond spineflower will be periodically maintained to have low abundance of non-native annual grasses and forbs. Pesticides that could reduce abundance of arthropods that could pollinate spineflowers will not be used on the project site.

## 4.2 Anticipated Take of Covered Species

The proposed project could cause mortality of Mount Hermon June beetles that might occur within the 5,856 ft<sup>2</sup> (0.134 acres) of soil that will be disturbed and/or covered by as a result of the project.

Located outside of the project disturbance envelope, the Ben Lomond spineflower is not anticipated to be impacted by construction of the single-family home and associated improvements for the project.

## 4.3 Effects on Critical Habitat

Critical habitat has not been designated for the Mount Hermon June beetle. In designating critical habitat for the Zayante band-winged grasshopper, the Service included 10,560 acres of land in central Santa Cruz County. This area represents the boundaries of the known distribution of the endangered insect. The primary constituent elements of critical habitat for the Zayante band-winged grasshopper are the presence of Zayante soils, the occurrence of Zayante Sandhills habitat and the associated plant species, and certain microhabitat conditions,

including areas that receive large amounts of sunlight, widely scattered tree and shrub cover, bare or sparsely vegetated ground, and loose sand (Service 2001).

This proposed project occurs within the boundaries of the Zayante band-winged grasshopper critical habitat designation. However, because the project site supports moderate to dense non-native herbaceous plant cover and is shaded by buildings and trees on the adjoining parcels, it does not contain the primary constituent elements for the Zayante band-winged grasshopper. Therefore, the proposed project activities will not impact the endangered insect's critical habitat.

#### 4.4 Anticipated Impacts of the Taking

Neither the mortality of Mount Hermon June beetles potentially occupying the 5,856 ft<sup>2</sup> (0.134 acres) of intact soil proposed to be disturbed during project construction, nor the permanent removal of 5,217 ft<sup>2</sup> (0.120 acres) of habitat due to the construction of this project, are anticipated to affect the persistence of the population of Mount Hermon June beetle in the Whispering Pines region or persistence of the species as a whole. The project impacts are extremely unlikely to influence successful recovery of the endangered species. This assessment is made based on several factors including:

1. The small area of habitat that will be removed
2. The degraded nature of the habitat that will be removed
3. The high density residential development surrounding the project area.

Within the Whispering Pines residential neighborhood in which the Tinkess Property is located, the Mount Hermon June beetle population faces numerous threats from on-going activities associated with existing residential development, including but not limited to: irrigation, installation of non-native landscaping, fire suppression, night lighting, existing buildings, walls, fences and swimming pools, native plant removal, and digging by pets.

As a result of historic residential development, the Mount Hermon June beetle population within this area is likely unnaturally small and as a result, may be susceptible to extirpation from random genetic, demographic, or environmental events. The small size of the remaining portion of the project parcel, as well as small number of undeveloped parcels within the neighborhood, greatly limits opportunities for permanent conservation through acquisition or conservation easements. Given the ongoing threats and lack of conservation opportunities for Mount Hermon June beetle, remaining habitat in the project area and the neighborhood is considered degraded and suboptimal.

That said, habitat within the Whispering Pines residential neighborhood could provide some long term conservation value for Mount Hermon June Beetle. Though degraded, fragmented, and reduced in size, the habitat may support persisting populations of the endangered insect. The Mount Hermon June Beetle lives 99% of its life belowground. Therefore, it is possible that development, at least at the current level, might not cause extirpation (population extinction). Indeed, the fact that Mount Hermon June Beetles, which have a 2-3 year life cycle, still inhabits this area, which began to be developed more than 50 years ago, suggests that populations could persist here despite the current level of development.

Remaining habitat within the Whispering Pines region might also provide connectivity between otherwise isolated populations located in intact habitat. The residential neighborhood in which this project is proposed is adjacent to intact habitat that is being preserved and managed for long term persistence of the species: the conservation areas of the Hanson Quarry and Henry Cowell State Park. Maintaining some habitat and populations within this neighborhood can allow migration between populations in these protected areas. Migration can help maintain genetic diversity and facilitate natural recolonization of habitat following extirpations that might result from fire, disease, or other stochastic events (McGraw 2004b).

## 4.5 Cumulative Impacts

In contrast with the analysis of cumulative impacts under section 7, section 10 of the Act and HCPs analyze cumulative impacts as incremental impacts of the action on the environment when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. The geographic area for analysis should be defined by the manifestation of direct or indirect impacts as a result of covered activities. Cumulative impacts under section 10 of the Act can result from individually minor but collectively significant actions taking place over a period of time.

The impacts of this project on the persistence of the endangered Mount Hermon June beetle and the Ben Lomond spineflower are very low, owing not only to the small size of the project, but also its occurrence in a already developed and therefore both degraded and fragmented habitat area. Infill development in the Whispering Pines neighborhood will continue to reduce the amount of open sand habitat available for the species. It is possible that, over time, this development will result in the extirpation of the Mount Hermon June beetle and/or the Ben Lomond spineflower from this developed area. Such infill development will not likely impact populations that persist at presumably higher densities within the intact habitat to the north and west which has been protected from further development (Figure 2; McGraw 2004b). As a result, the cumulative impacts of this project on the persistence of the Mount Hermon June beetle and the Ben Lomond spineflower are anticipated to be very small.

## Section 5

# Conservation Program/Measures to Minimize and Mitigate for Impacts

### 5.1 Biological Goals and Objectives

Section 10(a)(2)(A) of the Act requires that an HCP specify the measures that the permittee will take to minimize and mitigate to the maximum extent practicable the impacts of the taking of any federally listed animal species as a result of activities addressed by the plan.

As part of the “Five Point” Policy adopted by the Services in 2000, HCPs must establish biological goals and objectives (65 *Federal Register* 35242, June 1, 2000). The purpose of the biological goals is to ensure that the operating conservation program in the HCP is consistent with the conservation and recovery goals established for the species. The goals are also intended to provide to the applicant an understanding of why these actions are necessary.

These goals were developed based upon the species’ biology, threats to the species, the potential effects of the Covered Activities, and the scope of the HCP.

Goal 1: Avoid and minimize take of the Mount Hermon June beetle within the project site.

Objective 1.1: Minimize removal of native Sandhills plant species.

Objective 1.2: Avoid landscaping with turf grass, weed matting, aggregate, and mulch.

Objective 1.3: Minimize night lighting during the flight season of the Mount Hermon June beetle.

Goal 2: Avoid impacts to the Ben Lomond spineflower within the project site.

Objective 2.1: Avoid building within Ben Lomond spineflower occupied habitat

Objective 2.2: Maintain low abundance of competitive, non-native herbaceous plants within the occupied spineflower habitat.

Objective 2.3: Avoid use of pesticides that would negatively impact native arthropods that could serve as pollinators for the Ben Lomond spineflower.

Goal 3: Protect habitat for the Mount Hermon June beetle and Ben Lomond spineflower at an off-site location of high long-term conservation value to the species.

Objective 3.1: Provide funds to protect, manage, and monitor habitat for the Mount Hermon June beetle and Ben Lomond spineflower at a conservation bank.

## 5.2 Avoidance, Minimization, and Mitigation Measures

Section 10 of the Act requires that all applicants submit HCPs that “minimize and mitigate” the impacts of take authorized by an incidental take permit, and that issuance of the permit will not “appreciably reduce the likelihood of the survival and recovery of the species in the wild.” In general, HCPs should include mitigation programs that are based on sound biological rationale, practicable, and commensurate with the impacts of the project on species for which take is requested. Additionally, the Service encourages applicants to develop HCPs that contribute to the recovery of a listed species. If the proposed project is expected to result in permanent habitat loss, then the mitigation strategy must include compensatory mitigation consisting of the permanent preservation of suitable habitat or similar measures.

In accordance with these guidelines and the requirements of the Endangered Species Act, the Conservation Program of this HCP is intended to achieve its biological goals and objectives and to ensure and that the impacts of Covered Activities on the Mount Hermon June beetle are minimized and mitigated to the maximum extent practicable.

### 5.2.1 Measures to Avoid Impacts to Ben Lomond spineflower

Impacts to Ben Lomond spineflower will be avoided by locating the project in the south and central portion of the parcel where the plant does not occur.

### 5.2.2 Measures to Minimize Impacts

The following measures are designed to minimize the indirect effects of the covered activities on the Mount Hermon June beetle and Ben Lomond spineflower by reducing impacts on individuals and the degradation of habitat adjacent to the project area and existing development.

#### **5.2.2.1: If ground disturbing activities are conducted during the flight season of the adult Mount Hermon June beetle, erosion control fabric will be placed over exposed soil in order to avoid impacts to dispersing males.**

Adult male Mount Hermon June beetles actively search for mates and breed during the evenings for approximately 12-14 weeks sometime between May 15 and August 15. During this period, males and females may burrow into duff and soils at

relatively shallow depths for protection during the daytime hours. Every attempt will be made to conduct soil disturbing aspects of the project outside of the adult flight season. If construction occurs during any part of the flight season, erosion control fabric will be used to cover open soil each night by 7 p.m. This will prevent adult males from burrowing into the exposed area and then being impacted by subsequent soil disturbance (digging, grading, or covering).

**5.2.2.2 Any potential larva or adult of the Mount Hermon June beetle (Figure 3) encountered in an area to be impacted by Covered Activities will be relocated to the intact habitat south of the impact area and re-buried at the approximate depth at which it was unearthed. If the Mount Hermon June beetle is found on the soil surface, then it will be relocated to a portion of the project site outside of the impact area and left on the soil surface in a location protected by vegetation.**

During pre-construction training, construction personnel will be shown pictures of Mount Hermon June beetle larva and adults, and instructed to cease construction activities and call a biologist qualified and permitted to handle the endangered species should one be observed during the course of construction. The biologist will then translocate the individuals to relatively intact habitat located on the northeast corner of the project parcel, in the area occupied by Ben Lomond spineflower, where it be released under vegetative cover. This measure will minimize take of the Mount Hermon June beetle by reducing the number of larvae, pupae, and adults that could be injured or killed as a result of project-related activities.

**5.2.2.3 Minimize the use of outdoor lighting.**

Adult Mount Hermon June beetles are distracted out light during the night, which can disrupt breeding activity. As part of this project, the two outdoor lights installed over the front and rear entrances of the single family residence will be motion sensing lights, which will be set to come on for just a brief period (10 seconds) if motion is detected.

**5.2.2.4: Do not install landscaping elements that degrade Mount Hermon June beetle habitat.**

Because adult Mount Hermon June beetles emerge from under the soil surface to attract and locate mates, turf grass, dense ground cover plants (e.g. ivy), weed matting, aggregate, and mulch can degrade habitat for this endangered insect, and will not be added in this project.

#### **5.2.2.4: Periodically remove non-native plants from the Ben Lomond spineflower occurrence.**

To promote persistence of the Ben Lomond spineflower occurrence in the northeastern corner of the property, the landowner will remove non-native plants that establish within the occupied habitat through pulling twice a year: once in the early winter after they initially establish, and again in the early spring before they flower.

### **5.2.3 Measure to Mitigate Unavoidable Impacts**

#### **5.2.3 Mitigate the direct impacts to Mount Hermon June beetle individuals and permanent and temporary impacts to Mount Hermon June beetle habitat that will occur in a total of 5,856 ft<sup>2</sup> (0.134) of habitat by purchasing conservation credits at the Zayante Sandhills Conservation Bank at a 1:1 ratio.**

Project construction will permanently remove 5,217 ft<sup>2</sup> (0.120 acres) of habitat that could potentially be used by the Mount Hermon June beetle (Table 3). It will also permanently impact Mount Hermon June beetles and temporarily remove their habitat within the 639 ft<sup>2</sup> (0.015 acre) area around the development that could be disturbed through digging to install the single-family home and associated hardscapes (Table 3).

To mitigate these impacts, the applicant will purchase 5,856 ft<sup>2</sup> conservation credits at the Zayante Sandhills Conservation Bank; thus mitigating these impacts at a 1:1 ratio. These ratios are appropriate, given that the habitat impacted is degraded due to historical fire risk abatement and the invasion and spread of non-native plants, and the habitat protected and managed by the Zayante Sandhills Conservation Bank is of exceptionally high conservation value for the Mount Hermon June beetle. The conservation credits will be purchased following receipt of the incidental take permit and prior to the inception of any project activities that would cause take, including soil disturbance.

The Zayante Sandhills Conservation Bank was established to provide mitigation for impacts to Mount Hermon June beetle and other special status Sandhills plants and animals that might result from development projects within the Felton USGS quad, such as this project. Presently, the Zayante Sandhills Conservation Bank is selling credits for the Ben Lomond Sandhills Preserve, a 23-acre Sandhills habitat preserve located in Ben Lomond, California, approximately 2.75 miles northeast of the project site (Figure 5).



**Figure 5:** Location of the proposed project site (Tinkess Property) with respect to the Ben Lomond Sandhills Preserve of the Zayante Sandhills Conservation Bank, the location of the off-site mitigation proposed in this plan. Map prepared by Jodi McGraw.

## 5.4 MONITORING

Monitoring tracks compliance with the terms and conditions of the HCP and permit. This project will include compliance monitoring to track the permit holder's compliance with the requirements specified in the HCP and permit, as described below. All biological effectiveness monitoring will be conducted at the Zayante Sandhills Conservation Bank Preserves, where the off-site mitigation will occur. This monitoring will be the responsibility of the bank operator.

### 5.4.1 Construction and Compliance Monitoring

**Pre-construction Orientation:** Prior to construction, the biologist will conduct a construction crew training, in which individuals involved in construction will be provided a brief presentation about the biology of the Mount Hermon June beetle, and will be shown pictures of both adults and larva, to aid their identification during construction. Construction personnel will be directed to cease work and immediately conduct a biologist permitted to handle and relocate Mount Hermon June beetle individuals (larva or adults) should they observed one in the project site.

**Construction Monitoring:** The biologist will conduct regular inspections of the project site during construction to salvage and relocate any larva, and to ensure that the erosion control cloth is being used nightly during the flight season to prevent Mount Hermon June beetles entering the soil.

### 5.4.2 Effects Monitoring

To quantify the incidental take at the end of the project, the biologist will calculate the area of soil disturbance and thus incidental take, and count the number of larval and adult Mount Hermon June beetles that were found and translocated by a qualified biologist during construction.

### 5.4.3 Access to Project Site

The permit holder shall allow representatives from the Service access to the project site to monitoring compliance with the terms and conditions of the HCP, and the effects of the project.

## 5.6 Reporting

By January 31 following each year of the permit, a qualified biologist will submit a report to the US Fish and Wildlife Service in order to document the status of the project. The report will include:

1. A brief summary of project activities accomplished during the reporting year (e.g. this includes development/construction activities, and other covered activities)
2. Project impacts

3. Description of take that occurred (based on disturbance footprint)
4. Observations of any Mount Hermon June beetle adults or larva
5. Brief description of conservation strategy implemented
6. Compliance monitoring results
7. Description of any changed or unforeseen circumstances that occurred and how they were dealt with
8. Funding expenditures, balance, and accrual
9. Description of any minor or major amendments.

## Section 6

# Plan Implementation

### 6.1 Plan Implementation

The project will be implemented by the applicants, Richard and Carolyn Tinkess, and their contractors. Precise timing of the project will depend on the timing of the incidental take permit and efforts will be made to minimize ground disturbing activities during the flight season (Section 5.2.1).

### 6.2 Changed Circumstances

#### 6.2.1 Summary of Circumstances

Section 10 regulations (69 *Federal Register* 71723, December 10, 2004 as codified in 50 Code of Federal Regulations (C.F.R.), Sections 17.22(b)(2) and 17.32(b)(2)) require that an HCP specify the procedures to be used for dealing with changed and unforeseen circumstances that may arise during the implementation of the HCP. In addition, the HCP No Surprises Rule [50 CFR 17.22 (b)(5) and 17.32 (b)(5)] describes the obligations of the permittee and the Service. The purpose of the No Surprises Rule is to provide assurance to the non-Federal landowners participating in habitat conservation planning under the ESA that no additional land restrictions or financial compensation will be required for species adequately covered by a properly implemented HCP, in light of unforeseen circumstances, without the consent of the permittee.

Changed circumstances are defined in 50 CFR 17.3 as changes in circumstances affecting a species or geographic area covered by an HCP that can reasonably be anticipated by plan developers and the Service and for which contingency plans can be prepared (e.g., the new listing of species, a fire, or other natural catastrophic event in areas prone to such event). If additional conservation and mitigation measures are deemed necessary to respond to changed circumstances and these additional measures were already provided for in the plan's operating conservation program (e.g., the

conservation management activities or mitigation measures expressly agreed to in the HCP), then the permittee will implement those measures as specified in the plan. However, if additional conservation management and mitigation measures are deemed necessary to respond to changed circumstances and such measures were not provided for in the plan's operating conservation program, the Service will not require these additional measures absent the consent of the permittee, provided that the HCP is being "properly implement" (properly implemented means the commitments and the provisions of the HCP and the IA have been or are fully implemented).

Foreseeable changed circumstances within the project area of this HCP include:

- the new listing of a species;
- the discovery of the Zayante band-winged grasshopper, Santa Cruz wallflower, or Ben Lomond spineflower at the project site.

### **6.2.2 Newly listed species**

If a new species that is not covered by the HCP but that may be affected by activities covered by the HCP is listed under the Federal ESA during the term of the section 10 permit, the section 10 permit will be reevaluated by the Service and the HCP covered activities may be modified, as necessary, to insure that the activities covered under the HCP are not likely to jeopardize or result in the take of the newly listed species or adverse modification of any newly designated critical habitat. Richard and Carolyn Tinkess, the landowners, shall implement the modifications to the HCP covered activities identified by the Service as necessary to avoid the likelihood of jeopardy to or take of the newly listed species or adverse modification of newly designated critical habitat. The property owners shall continue to implement such modifications until such time as the Permittee has applied for and the Service has approved an amendment of the Section 10(a)(1)(B) permit, in accordance with applicable statutory and regulatory requirements, to cover the newly listed species or until the Service notifies Mr. and Mrs. Tinkess in writing that the modifications to the HCP covered activities are no longer required to avoid the likelihood of jeopardy of the newly listed species or adverse modification of newly designated critical habitat.

The occurrence of a newly listed species at the project site during the course of the requested 3-year permit is highly unlikely due to the small size of the project site, the degraded nature of the habitat, which is largely developed, and the short duration of the permit.

### **6.2.3 Discovery of other currently listed species at the project site**

In the event that one or more other already listed endangered species are found at the site, the applicant will cease project activities that would likely result in incidental take of newly-discovered listed species, and apply for a permit amendment. It is extraordinarily

unlikely that other listed species will be discovered at the project site, due to the degraded nature of the habitat, the distance to nearest other populations, and the short duration of the project permit, among other factors.

### **6.3 Unforeseen Circumstances**

Unforeseen circumstances are defined in 50 CFR 17.3 as changes in circumstances that affect a species or geographic area covered by the HCP that could not reasonably be anticipated by plan developers and the Service at the time of the HCP's negotiation and development and that result in a substantial and adverse change in status of the covered species. The purpose of the No Surprises Rule is to provide assurances to non-Federal landowners participating in habitat conservation planning under the Act that no additional land restrictions or financial compensation will be required for species adequately covered by a properly implemented HCP, in light of unforeseen circumstances, without the consent of the permittee.

In case of an unforeseen event, the permittee shall immediately notify the Service staff who have functioned as the principal contacts for the proposed HCP. In determining whether such an event constitutes an unforeseen circumstance, the Service shall consider, but not be limited to, the following factors: size of the current range of the affected species; percentage of range adversely affected by the HCP; percentage of range conserved by the HCP; ecological significance of that portion of the range affected by the HCP; level of knowledge about the affected species and the degree of specificity of the species' conservation program under the HCP; and whether failure to adopt additional conservation measures would appreciably reduce the likelihood of survival and recovery of the affected species in the wild.

If the Service determines that additional conservation and mitigation measures are necessary to respond to the unforeseen circumstances where the HCP is being properly implemented, the additional measures required of the permittee must be as close as possible to the terms of the original HCP and must be limited to modifications within any conserved habitat area or to adjustments within lands or waters that already set-aside in the HCP's operating conservation program. Additional conservation and mitigation measures shall involve the commitment of additional land or financial compensation or restrictions on the use of land or other natural resources otherwise available for development or use under original terms of the HCP only with the consent of the permittee.

### **6.4 Amendments**

#### **6.4.1 Minor Amendments**

Minor amendments are changes that do not affect the scope of the HCP's impact and conservation strategy, change amount of take, add new species, and change significantly the boundaries of the HCP. Examples of minor amendments include correction of spelling errors or minor corrections in boundary descriptions. The minor amendment process is

accomplished through an exchange of letters between the permit holder and the Service's Field Office.

#### **6.4.2 Major Amendments**

Major amendments to the HCP and permit are changes that do affect the scope of the HCP and conservation strategy, increase the amount of take, add new species, and change significantly the boundaries of the HCP. Major amendments often require amendments to the Service's decision documents, including the NEPA document, the biological opinion, and findings and recommendations document. Major amendments will often require additional public review and comment.

### **6.5 Suspension/Revocation**

The Service may suspend or revoke their respective permits if fails to implement the HCP in accordance with the terms and conditions of the permits or if suspension or revocation is otherwise required by law. Suspension or revocation of the Section 10(a)(1)(B) permit, in whole or in part, by the Service shall be in accordance with 50 CFR 13.27-29, 17.32 (b)(8).

### **6.6 Permit Renewal**

The applicant requests a 3-year permit, to ensure that the covered activities associated with construction of the room addition, which are estimated to require only four months, can be completed prior to permit expiration.

Upon expiration, the Section 10(a)(1)(B) permit may be renewed without the issuance of a new permit, provided that the permit is renewable, and that biological circumstances and other pertinent factors affecting covered species are not significantly different than those described in the original HCP. To renew the permit, the property owners shall submit to the Service, in writing:

- ✧ a request to renew the permit; reference to the original permit number;
- ✧ certification that all statements and information provided in the original HCP and permit application, together with any approved HCP amendments, are still true and correct, and inclusion of a list of changes;
- ✧ a description of any take that has occurred under the existing permit; and
- ✧ a description of any portions of the project still to be completed, if applicable, or what activities under the original permit the renewal is intended to cover.

If the Service concurs with the information provided in the request, it shall renew the permit consistent with permit renewal procedures required by Federal regulation (50 CFR 13.22). If

the property owners file a renewal request and the request is on file with the issuing Service office at least 30 days prior to the permits expiration, the permit shall remain valid while the renewal is being processed, provided the existing permit is renewable. However, the property owners may not take listed species beyond the quantity authorized by the original permit. If the property owners fail to file a renewal request within 30 days prior to permit expiration, the permit shall become invalid upon expiration. The property owners and the mitigation bank operator must have complied with all annual reporting requirements to qualify for a permit renewal.

## **6.7 Permit Transfer**

If the proposed permit holders who currently own the property, Richard and Carolyn Tinkess, transfer the property to another party, during the period of the permit and that party agrees to implement the project and comply with the terms of the HCP, the permit can be transferred to the new landowner.

In the event of sale or transfer of ownership of the property during the life of the permit, a new permit application, permit fee, and an Assumption Agreement will be submitted to the Service by the new owner(s). The new owner(s) will commit to all requirements regarding the take authorization and mitigation obligations of this HCP unless otherwise specified in the Assumption Agreement and agreed to in advance with the Service.

## Section 7 Funding

### 7.1 Costs of HCP Implementation

Costs to implement the conservation strategy described in this plan are listed in Table 4.

**Table 4: Estimated costs to implement the conservation strategy described in this plan.**

Element	Strategy	Units		Costs (\$)	
		Type	Number	Per Unit	Total
Minimization Measure 5.2.1.2	Cover open soil in previously impervious portion(s) of project area with erosion control fabric to prevent burrowing during flight season	GeoJute: 4' x 147' roll	10	80	800
Compensation	Purchase 5,856 square foot conservation credits at the Zayante Sandhills Conservation Bank	conservation credits	5,856	7.5	43,920
Compliance Monitoring	Hire biologist to conduct compliance monitoring and pre-construction training	labor hours	10	95	950
Effects Monitoring	Hire biologist to conduct effects monitoring	labor hours	6	95	570
Reporting	Hire biologist to complete project report to USFWS	labor hours	8	95	760
<b>Total</b>					<b>47,000</b>

## **7.2 Funding Source(s)**

The applicants, Richard and Carolyn Tinkess, will pay for all costs associated with implementing the HCP (Table 4).

## **7.3 Funding Mechanism and Management**

The applicant will provide all funds required to implement the conservation strategy (Table 4). The applicant understands that failure to provide adequate funding and consequent failure to implement the terms of this HCP in full could result in temporary permit suspension or permit revocation.

The applicants will purchase 5,856 square foot conservation credits from the Zayante Sandhills Conservation Bank following receipt of the incidental take permit and prior to the inception of any project activities that would cause take, including soil disturbance. The conservation bank has provided a letter to the applicant indicating their intent to sell the conservation credits (Appendix C). The applicant has submitted a bank statement demonstrating the ability to cover the remaining costs (Appendix D).

## Section 8 Alternatives

### 8.1 Summary

Section 10(a)(2)(A)(iii) of the Endangered Species Act of 1973, as amended, [and 50 CFR 17.22(b)(1)(iii) and 17.32(b)(1)(iii)] requires that alternatives to the taking of species be considered and reasons why such alternatives are not implemented be discussed.

### 8.2 No Action Alternative

Under the No Action Alternative, the new single-family home would not be constructed and an incidental take permit would not be requested or issued. The property owners would not be able to utilize the vacant lot for the purpose it was originally acquired. The portion of the vacant parcel would continue to be covered by moderately dense non-native herbaceous plants which degrade habitat for the Mount Hermon June beetle by precluding/reducing burrowing and reducing the cover of native plant species that are more likely to serve as host plants for the endangered insect. The occurrence of Ben Lomond spineflower in the northeastern corner of the parcel would similarly continue to be negatively impacted by competitive non-native plants.

Under the No Action Alternative, the conservation measures proposed in this HCP would not be implemented, and the 5,856 square feet of conservation credits would not be purchased at the Zayante Sandhills Conservation Bank. This would reduce funds available for preservation, management, and monitoring of the high quality reserve established to protect the Mount Hermon June beetle, the Ben Lomond spineflower, and other endangered Sandhills species (Table 2). Because the benefits of the HCP conservation measures outweigh the impacts of the project on the Mount Hermon June beetle, the No Action alternative has been rejected.

### 8.3 Alternative 2: Redesign Project (Reduce Take)

Under this alternative, the new single family home would be built as a two-story house and the disturbance footprint would be reduced from 4,069 ft<sup>2</sup> to approximately 2,200 ft<sup>2</sup>. Building a two-story home would be impractical for Mr. and Mrs. Tinkess, who are of retirement age and intend to live in the new home during their senior years, when their mobility could be impaired, thus making stairs difficult to negotiate. However, compared to the proposed project, the area of soil disturbed would be reduced by approximately 2,069 ft<sup>2</sup> due to the reduced home footprint and reduced area of soil disturbance around the perimeter. Under this option, 2,069 square foot credits would not be purchased from the Zayante Sandhills Conservation Bank, reducing funds to preserve the high quality habitat it contains. This redesign would present a significant burden

on the landowners without significantly reducing the project impacts on the Mount Hermon June beetle. For these reasons, this redesign alternative has been rejected.

#### **8.4 Alternative 3: Proposed Action (Permit Issuance)**

Under the proposed action alternative, Mr. and Mrs. Tinkess would reconstruct their house and associated hardscapes as described in Section 2. The proposed action will require the issuance of a Section 10(a)(1)(B) permit in order that the project be implemented in compliance with the federal Endangered Species Act. The project could cause mortality to individuals potentially occurring within the 5,856 ft<sup>2</sup> area that will be disturbed, and could permanently remove through covering 5,217 ft<sup>2</sup> of degraded but potentially suitable Mount Hermon June beetle habitat.

However, the conservation measures proposed in the HCP would provide for greater conservation benefit to the Mount Hermon June beetle and the Ben Lomond spineflower than that which would result from the No Action alternative. Specifically, under the Proposed Action, the applicants will secure 5,856 square foot conservation credits in the Zayante Sandhills Conservation Bank, thus ensuring the preservation, management, and monitoring of Mount Hermon June beetle and Ben Lomond spineflower habitat in a relatively large, contiguous, and high quality habitat preserve, in perpetuity. Mr. and Mrs. Tinkess will also help maintain appropriate habitat conditions within the Ben Lomond spineflower occurrences through regular weeding of non-native annual grasses and forbs. The Proposed Action thus provides greater conservation benefits than the No Action and Redesigned Project alternative, while best meeting the needs of the applicant. Therefore, the Proposed Action is the preferred alternative.

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**APPENDIX A: Habitat Evaluation of the Tinkess Project Site (McGraw 2007)**

May 8, 2007

Richard and Carolyn Tinkess  
c/o  
Wayne Miller  
PO Box 1929  
Freedom, CA 95019

**RE: Biotic Assessment of Parcel 067-411-29, near the town of Scotts Valley, CA**

Dear Mr. and Mrs. Tinkess:

I am writing to provide you with results of the habitat assessment that I conducted on May 8, 2007 on your parcel 067-411-29, an approximately 1.03 acre home site located at 700 Sugar Pine Drive near the town of Scotts Valley, California. Based on my conversation within your contractor, Wayne Miller, I understand that you are seeking to construct a second, single family residence on the currently undeveloped western half of the parcel.

The purpose of my assessment was to evaluate the habitat conditions in the proposed project site, to determine whether it supports Sandhills habitat or special status plants and animals within the Santa Cruz Sandhills, including: Ben Lomond spineflower (*Chorizanthe pungens* var. *pungens*), Santa Cruz wallflower (*Erysimum teretifolium*), silverleaf manzanita (*Arctostaphylos silvicola*), Ben Lomond buckwheat (*Eriogonum nudum* var. *decurrens*), Mount Hermon June Beetle (*Polyphylla barbata*) or the Zayante Band-Winged Grasshopper (*Trimerotropis infantilis*).

As mapped by the Soil Conservation Service, the project parcel contains Zayante soils, which are poorly developed, deep, coarse, sand soils derived from the weathering of uplifted marine sediments and sandstones (USDA 1980). The soil in the proposed project site is a light to medium grey, loose sand soil characteristic of the Zayante series.

The undeveloped portion of the parcel is unpaved and does not contain other improvements. The vegetation within this area includes six mature coast live oaks (*Quercus agrifolia*) and a pacific madrone (*Arbutus menziessii*), which occur within a mosaic of herbaceous plants largely dominated by non-native species typical of degraded Sandhills habitat. These include smooth cat's ears (*Hypochaeris glabra*), rat-tail fescue (*Vulpia myuros*), and silver European hairgrass (*Aira caryophyllea*). Several forbs native to the Sandhills also occur on the site, including miniature lupine (*Lupinus bicolor*), suncups (*Camissonia contorta* and *C. macrantha*), navarretia (*Navarretia atractyloides*), and the Sandhills ecotype of the California poppy (*Eschscholzia californica*). A small patch (approx. 150ft<sup>2</sup>) of the federally endangered Ben Lomond spineflower also occurs within the northern portion of the parcel. None of the other special status plants were observed on the proposed project site.

Based on my observations, the proposed project area has some limited potential to provide habitat for the Zayante band-winged grasshopper. Though the adjacent houses partially shade this small patch of potential habitat (i.e. <0.5 acre), the project site has loose sand soil, open canopy cover, and moderately dense herb cover characteristic of the rare grasshopper's habitat. The nearest known location of Zayante band-winged grasshopper occurs in the Hanson Quarry less than 500 feet north of the proposed project site. A survey is recommended to determine whether the species presently occupies the proposed project site.

The project parcel may also provide habitat for the Mount Hermon June beetle, which is known to occur within the Hanson Quarry and throughout the Whispering Pines neighborhood, including at three locations within 500 feet of the project site (BUGGY 2004). Though the exotic plants may degrade habitat for Mount Hermon June beetle, the proposed project site is likely suitable for burrowing by adults and larva of the species, which may be able to feed on non-native as well as native plant species.

The Mount Hermon June Beetle (MHJB) and the Zayante Band-Winged Grasshopper (ZBWG) have been listed by the United States Fish and Wildlife Service (USFWS) as a Federally Endangered Species under the federal Endangered Species Act (ESA). The ESA makes it illegal to 'take' (kill, harm, harass, etc.) endangered species such as the MHJB and ZBWG, including as might result from activities associated with building a new home on the undeveloped portion of the property. However, the USFWS can permit take of MHJB and/or ZBWG that might occur incidentally during the course of otherwise lawful projects, such as building, by issuing what is known as an 'incidental take permit' (ITP).

In order to receive an ITP, project proponents must complete a Habitat Conservation Plan (HCP), which outlines how they will mitigate the project's negative effects on the endangered species. Mitigation must include steps to avoid, minimize, and repair impacts at the project site, as well as efforts to compensate for them by benefiting similar habitat elsewhere. Given the small size of your project and low anticipated impacts to the MHJB and potentially ZBWG, projects such as yours can receive an ITP through preparation of a low effect HCP.

In collaboration with the US Fish and Wildlife Service and the City of Scotts Valley, the County of Santa Cruz is developing an Interim Programmatic HCP (IPHCP) for the Sandhills, which is designed to cover take of MHJB that occurs during the course of projects such as yours. Once the IPHCP is completed, project proponents can receive a permit to cover take of MHJB directly from the County, provided that their project meets certain specifications and that they mitigate their projects impacts as outlined in the IPHCP. The IPHCP will not cover take of ZBWG, however. Therefore, if a survey reveals that the proposed project site supports an occurrence of the ZBWG, you will likely need to prepare and individual low effect HCP to receive an ITP for ZBWG as well as MHJB for the project.

This information is provided to aid evaluation of your proposed projects. I strongly recommend that you discuss your project permitting requirements with the U.S. Fish and Wildlife Service, which administers the Endangered Species Act, and the County of Santa Cruz Planning Department, which administers the County's Sensitive Habitat Ordinance. The following

representatives of these agencies might also be able to estimate timelines for completion of the IPHCP and review of an individual low-effect HCP, to aid your project permit planning.

<b>U.S. Fish and Wildlife Service</b>	<b>County of Santa Cruz</b>
Roger Root Fish and Wildlife Biologist 2493 Portola Road, Suite B Ventura CA, 93003 (805) 644-1766 roger_root@fws.gov	Claudia Slater Environmental Planner 701 Ocean Street, Santa Cruz, CA 95060 (831) 454-5175 PLN106@co.santa-cruz.ca.us

Please do not hesitate to contact me if you have any questions regarding the habitat assessment, or if I might further assist you with your project permitting.

Sincerely,

Jodi M. McGraw

## References

- BUGGY. 2004. Report of known occurrences for the Mount Hermon June beetle from the BUGGY Data Base. Entomological Consulting Services, Ltd., Pleasant Hill, CA.
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## **Appendix B: Results of Zayante band-winged grasshopper survey at the Tinkess Property (September 10, 2007)**

September 10, 2007

Richard and Carolyn Tinkess  
700 Sugar Pine Drive  
Scotts Valley, CA 95066

### **RE: Results of Presence/Absence Survey for Zayante band-winged grasshopper on Parcel 067-411-29, Santa Cruz County, California (Conducted Under Permit # TE118641-0)**

Dear Mr. and Mrs. Tinkess:

I am writing to provide you with results of the presence/absence survey for the Zayante band-winged grasshopper (*Trimerotropis infantilis*) that I conducted this summer on parcel 067-411-29, an approximately 0.44 acre home site located at 680 Sugar Pine Drive near the town of Scotts Valley, California. The purpose of the survey was to determine whether the federally endangered insect occupies the vacant parcel, on which you are seeking to build a single-family residence.

#### **Background**

In a previous habitat assessment conducted at the property, I determined that the proposed project area had limited potential to provide habitat for the Zayante band-winged grasshopper—a federally endangered insect that occupies sparsely vegetated areas within the unique community of plants and animals found on the Zayante soils in the region, known as the Santa Cruz Sandhills. The parcel features moderately dense growth of primarily herbaceous plants, including numerous herbs that occur within Sandhills habitat. The endangered insect is known to occur in remaining habitat within the Hanson Quarry approximately 500 feet north of your parcel. Given your interest in building on the property, a survey was recommended to determine the presence or absence of the endangered insect.

#### **Methods**

As a biologist specializing in the endangered species and communities of the Santa Cruz Sandhills, I have a permit from the US Fish and Wildlife Service, the government agency that administers the Federal Endangered Species Act (ESA), to conduct visual surveys for the Zayante band-winged grasshopper (Permit TE118641-0). Prior to conducting the survey, I discussed the survey design with Roger Root, Biologist with the US Fish and Wildlife Service, who agreed that the methods used would be adequate to determine whether the endangered insect occupies the site.

The visual survey was conducted on three separate days spanning the Zayante-band winged grasshopper's adult activity season: July 23, August 3, and September 9. These days featured weather conditions conducive to activity of Zayante band-winged grasshoppers, including temperatures above 75 °F and limited wind (<10 mph). Prior each survey of the subject parcel, I confirmed that Zayante band-winged grasshoppers were active within the conservation areas of the Quail Hollow Quarry in Ben Lomond.

During each survey, I walked contiguous band transects each 2m wide, across the entire parcel, within which I searched for the Zayante band-winged grasshopper: a small (0.5-0.9 inch long), pale gray or light brown grasshopper with blue hind tibia, a yellow patch on its hindwings, and dark bands on the forewings. When startled, the Zayante band-winged grasshopper makes a crepitating sound and flies an estimated 1-2 meters

before landing. The species can best be distinguished from co-occurring congeners, including *T. thalassica* and *T. pallidipennis*, by its reduced size and distinctive cream-colored mask around the eyes. Each survey required approximately one hour to complete.

## Results

I did not observe Zayante band-winged grasshoppers on the subject parcel during my survey. On all three survey dates, I observed active Zayante band-winged grasshoppers in abundance at either the South Ridge (July 23 and August 3) or the North Ridge (September 9) of Quail Hollow in Ben Lomond. In addition, insect activity was relatively abundant on the parcel during all three surveys, with the overall abundance of flying insects greatest during the first two surveys.

## Conclusions

Based on the results of my survey, it is very unlikely that the Zayante band-winged grasshopper occurs on the subject parcel. Examination of the historical aerial imagery from the site reveals that, prior to construction of houses beginning during the middle of the 20<sup>th</sup> century, the region supported vegetation characterized by moderate to dense cover of chaparral shrubs and scattered ponderosa pines and coast live oaks. This relatively dense form of Sandhills vegetation does not currently support occurrences of the Zayante band-winged grasshopper, which is instead limited to open, sunlit areas. While tree removal and grass trimming associated with fire prevention activities on your parcel have created open conditions more conducive to the Zayante band-winged grasshopper, the small, potentially suitable habitat patch is surrounded by homes and tall trees that create shade and inhibit grasshopper migration needed to colonize the habitat patch.

As described in the prior habitat assessment, the parcel does contain a small occurrence of the federally endangered Ben Lomond spineflower (*Chorizanthe pungens* var. *pungens*) and supports habitat for the federally endangered Mount Hermon June beetle (*Polyphylla barbata*). As a result, I recommend that you continue your work to apply to the US Fish and Wildlife Service for an incidental take permit to cover impacts to these endangered species resulting from construction of a single family home on the property through preparation of a Habitat Conservation Plan for your project.

Please do not hesitate to contact me if you have any questions regarding the survey or your habitat conservation plan, or if I might further assist you with your project permitting.

Sincerely,

Jodi M. McGraw

Cc: Roger Root, Biologist, US Fish and Wildlife Service  
Wayne Miller

**APPENDIX C: Letter from the Zayante Sandhills Conservation Bank indicating intent to sell conservation credits to Richard and Carolyn Tinkess.**



Zayante Sandhills Conservation Bank

245-M Mt. Hermon Rd. #154 Scotts Valley CA 95066

April 9, 2008

Richard and Carolyn Tinkess  
700 Sugar Pine Road  
Scotts Valley, CA 95066

**RE: Sale of Conservation Credits for Tinkess Habitat Conservation Plan**

Dear Mr. and Mrs. Tinkess:

Thank you for the opportunity to assist you with your project to construct a single family home on your parcel at 680 Sugar Pine Road in Scotts Valley, CA (APN: 067-411-39), by providing conservation credits to mitigate the impacts of the project on the Mount Hermon June beetle—a federally endangered species for which the Zayante Sandhills Conservation Bank sells conservation credits.

We understand that you will purchase the conservation credits after you receive the Incidental Take Permit (ITP) from the US Fish and Wildlife Service, but before causing take as part of the project. As we discussed, the Zayante Sandhills Conservation Bank has sufficient credits within the Ben Lomond Sandhills Preserve to sell you the 5,856 square foot conservation credits required to mitigate your projects impacts as described in your Habitat Conservation Plan. During 2008, the price per credit will be \$7.50; however, the price will increase beginning January 1, 2009.

Thank you,

A handwritten signature in blue ink, appearing to read 'PB', with a long horizontal flourish extending to the right.

Paul Burrowes  
Managing Partner

cc: Jodi McGraw, *Population and Community Ecologist*

**APPENDIX D: Bank Statement for Mr. Richard and Carolyn Tinkess, Demonstrating Sufficient Funds to Fund the Conservation Strategy in this Plan (September 4, 2007).**

**PARTNER STATEMENT OF ACCOUNT**

**COMPANY**  
 Omni Financial, LLC  
 1260 41st Ave., Ste O  
 Capitola CA 95010  
 (831) 464-5027

ACCOUNT NO	[REDACTED]
STATEMENT DATE	9/4/2007
STATEMENT PERIOD	1/1/2007 - 9/4/2007
ACCOUNT BALANCE	\$206,061.07

**PARTNER**  
 Carolyn and/or Richard Tinkess  
 700 Sugar Pine Rd  
 Scotts Valley CA 95086

Please advise us immediately of any discrepancies in the transactions or investment activity on your statement of account or if you contemplate changing your address. When making inquiries by telephone or in writing please give your account number. We urge you to keep this statement with your investment records.

**INVESTMENT PORTFOLIO**

Partnership Account	Partnership Name	Shares Owned	Beginning Capital	Capital Contributions	Withdrawals & Disbursements	Income or (Loss)	Ending Capital
[REDACTED]	Omni Financial, LLC	205,7648	196,910.90	15,564.52	20,564.52	14,150.17	206,061.07
			196,910.90	15,564.52	20,564.52	14,150.17	206,061.07

**ACCOUNT ACTIVITY**

Date	Partnership Account	Reference	Description	Shares Bought/Sold	Capital Contributions	Withdrawals & Disbursements
01/02/2007	SOMN400	031287	Partnership Distribution			1,708.01
01/02/2007	SOMN400	031288	Reinvestment	1.7075	1,708.01	
01/04/2007	SOMN400	7301	Withdrawal per client request	-4.9957		5,000.00
02/01/2007	SOMN400	032285	Partnership Distribution			1,633.18
02/01/2007	SOMN400	032286	Reinvestment	1.6332	1,633.18	
03/01/2007	SOMN400	033277	Partnership Distribution			1,525.15
03/01/2007	SOMN400	033278	Reinvestment	1.5251	1,525.15	
04/02/2007	SOMN400	034255	Partnership Distribution			1,829.77
04/02/2007	SOMN400	034256	Reinvestment	1.8292	1,829.77	
05/01/2007	SOMN400	035241	Partnership Distribution			1,732.73
05/01/2007	SOMN400	035242	Reinvestment	1.7323	1,732.73	
06/01/2007	SOMN400	036227	Partnership Distribution			1,767.84
06/01/2007	SOMN400	036228	Reinvestment	1.7668	1,767.84	
07/01/2007	SOMN400	037221	Partnership Distribution			1,763.52
07/01/2007	SOMN400	037222	Reinvestment	1.7631	1,763.52	
08/01/2007	SOMN400	038203	Partnership Distribution			1,768.93
08/01/2007	SOMN400	038204	Reinvestment	1.7689	1,768.93	
09/04/2007	SOMN400	039161	Partnership Distribution			1,835.39
09/04/2007	SOMN400	039162	Reinvestment	1.8328	1,835.39	