ATTACHMENT C

Vegetation Management Prescriptions (VMRx)

Alila Ventana Big Sur Fuels Treatment Project

Conifer Dominated Forest
Coast Live Oak Woodland
Brush/Scrub Formation
Grass Formation
Eucalyptus Grove
Electrical Distribution Line Corridor

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Development of the AVBS Fuel Model Management Prescriptions

Approach to Protection of Sensitive Resources

The identified sensitive biological resources (5 animal species, 6 plant species, 2 sensitive natural communities) will be afforded consideration, and if necessary, protection measures designed to meet, or exceed, the standard measures of performance in the guidance documents in force for this project. These documents include California and federal statutes (including, but not limited to, the California Coastal Act, California Environmental Quality Act, and, state and federal Endangered Species Acts), provisions of the CalVTP PEIR, local ordinances, and county planning documents (General Plans and more localized Specific Plans).

These sensitive resources will be afforded consideration, and protection measures where warranted, through the process of developing and implementing the VMRx's presented in this Attachment. Three examples of conserving the condition of these sensitive resources would be:

- Conducting reconnaissance-level surveys to determine presence of these sensitive resources, as well as flagging and avoiding any nests and/or burrows;
- Maintaining, or improving, the ESHA qualities currently exhibited in the areas occupied by the two CNPS Alliances, by fully complying with the Membership Rules performance standard where warranted, and,
- Increasing, over time, species diversity through control of the species re-occupying the treated areas.

Consistent with the objectives of maintaining ESHA quality and, over time, increasing species diversity in the managed vegetation types, hierarchal priorities will be established that will guide 1) the removal of species to be ***managed against***[1], and 2) of species that are being ***managed for***. Each separate VMRx will have species lists and hierarchal priorities unique to the sensitive resource involved but over the full set of VMRx's all species that are herein considered sensitive will be addressed. Following are the explanations of the ranking designations for the Removal and Retention categories:

Table 1. Vegetation Removal/Retention Priorities

Vegetation Removal	
Removal Priority	Priority Explanation
1	Highest priority for removal based on 1) its role in elevating wildfire hazard/risk levels, 2) a lack of "special status" protections, 3) whether it is considered hazardous to life or property, 4) its designation as an invasive species, and 5) its capacity to function as a distribution vector for insects or pathogens. Dead, diseased, and dying vegetation will have top priority for removal.
2	Moderate priority for removal based on 1) a less than significant contribution to elevated wildfire hazard/risk levels, 2) whether it has "special status" protections, 3) its relative rarity ranking, and 4) that it is not an invasive species or known to be a distribution vector for insects or pathogens
3	Low-to-Very Low removal priority resulting from situations where there are combinations of minor contributions to elevated wildfire risk and elevated constraints on removal
Vegetation Retention	
Retention Priority	Priority Explanation

[1] For definition of terms with ***bold italic*** fonts see the Glossary in the PSA body

1	Highest priority for retention based on 1) AVBS' management goals and objectives, 2) whether it has "special status" protections, 3) that it performs an essential role in the ecological functioning of the unit, 4) it is not considered to be hazardous, an invasive species, or having the capacity to function as a distribution vector for insects or pathogens, 5) condition (i.e., not diseased, dead, or dying)
2	A moderate to moderately-high priority for retention based on situations where Retention Priority 1 conditions have a preponderance of the influence in comparison with Retention Priority 4 conditions
3	A moderate-to-moderately low priority for retention based on situations where Retention Priority 4 conditions have a preponderance of the influence in comparison with Retention Priority 1 conditions
4	Lowest priority for retention based on 1) it having an insignificant role in the ecological functioning of the unit, 2) that it has not been assigned a "special status" designation, 3) it may be identified as being hazardous, invasive, or potential to function as a distribution vector for insects or pathogens

The primary method that will be employed to address habitat-specific considerations will be a vegetation management prescription (VMRx). A unique VMRx has been developed for each wildfire-related, and special management situation determined to be present within the project treatment area (PTA)**.** Each VMRx includes prescriptive guiding directions that are tailored to:

- The physical setting specifications (slope, adjacency to elements of the resort infrastructure, adjacency to known resource sensitivities, etc.);
- Scheduling of treatments in order to avoid resource sensitivities (bird nesting periods, plant flowering periods, etc.);
- The plant species known to be present, with special attention paid to species considered "sensitive" per, 1) their federal and/or California State listing as "Rare", "Endangered", "Threatened", or "Special Interest", or similar status and 2) their rarity/vulnerability rankings issued by the California Native Plant Society (CNPS);
- Management defined species removal priorities;
- Management defined species regeneration priorities;
- Specific protections to be implemented to address known resource sensitivities, and;
- Conditional protections in the event of discovery any additional resource sensitivities.

The VMRx will be accompanied by a set of implementation training materials in languages appropriate to the contracted workforce (e.g., English and Spanish). The full set of VMRxs that will be employed for the proposed project can be found here, in Attachment C to this PSA.

Following are more detailed discussions pertaining to the considerations given to these sensitive resource situations and their ultimate role in the proposed AVBS wildfire hazard reduction project.

VMRxs have been prepared for:

- The two Alliances previously identified: Coast Redwood Forest and Woodland, Coast Live Oak Forest and Woodland;
- The Scrub/Brush Formation mapping category. This VMRx is not based on the floristics of individual species due to the inability to clearly define dominance patterns.
- Over the course of several field examinations, no CNPS brush/scrub-related alliances were identified based on percent cover, however, individuals of these alliance member species were present (i.e. coyote brush, chamise, poison oak) but not at the alliance level.
- Member species of the *Cytisus scoparius*, *Genista monspessulana*, *Cotoneaster* spp. Shrubland Semi-Natural Alliance (broom patches) were present and will be prioritized for removal. This VMRx includes management action guidance for both the initial treatments and maintenance

program and is based on an area, or group, approach (as will be described in a following section);

- A VMRx for the non-native Grass Formation was prepared that addresses only the Maintenance Treatment aspect as the current fuels conditions meet the requirements of the specialized evapo-transpirational role that the grass swards fulfill;
- Two management units (MUs) characterized as special management situations (SMS): Electrical Distribution Line corridors, and a grove of Blue gum (*Eucalyptus globulus*);
- No VMRx will be prepared for riparian situations as no project actions will be taken in established watercourse and lake protection zones (WLPZs), or in areas that are adjacent to an MU that would qualify for the WLPZ protection but is not located within the MU boundary.

Actions Required in Special Regulatory Situations

Actions Within Jurisdictional Oak Woodlands

This project will also be working in jurisdictional oak woodland stands, i.e. those that qualify for consideration and protections under the California Oak Woodland Conservation Act (OWCA)[2]. In order for an oak woodland stand to come under the protections of the OWCA it must have a canopy percentage that exceeds 10%. By complying with the Membership Rules included in the VegCAMP *Quercus agrifolia* Woodland and Forest Alliance, where a minimum canopy percentage, in a co-dominant situation, is 33%, compliance with the OWCA will be assured as well.

Invasive Species Control Actions

Regardless of the specific VMRx in consideration, management actions regarding the control of invasive species will be common to all six of the prescriptions. Wherever any of the six species identified in the table below are determined to be present they will be addressed accordingly. The most critical aspect is to conduct the removal actions in the seasonal period prior to the maturation of the fruiting bodies. To fix this time period the "blooming period" information was, 1) identified from the individual species profiles presented in the Calflora.com system, and 2) adjusted through direct field observations.

Table 2. "Common-to All" Management Actions for Invasive Species.

Scientific Name	Common Name	Seasonal Bloom Period	Initial Treatment	Maintenance Treatments
Ageratina adenophora	Sticky Eupatorium	April thru August	Mow, till, hand grub	Mow, PH
Cortaderia jubata	Purple Pampas Grass	September thru February	Hand/machine grub	Mow, till, PH
Cortaderia selloana	Uruguayan Pampas Grass	September thru March	Hand/machine grub	Mow, till, PH
Centaurea solstitialis	Yellow Starthistle	April thru September	Mow, till	Mow, PH
Delairia odorata	Cape Ivy	November thru May	Grub, mow,	Mow, PH
Genista monspessulana	French Broom	March thru May	Hand grub	Mow, PH

Mow – Driver operated, hand propelled mower Till – Discing soil surface with medium-sized equipment
Grub – Removal of entire individual (roots, root crown, and foliage) with manual methods or machine-aided equipment
PH – Prescribed Herbivory, subject to CCC Executive Director approval of a final prescribed herbivory plan

[2] California Fish and Game Code Sections 1361 (g), (h) and (j).

The removal actions, including 1) the removal of portions, or the entire body, of the species, and 2) reduction of the removed material, will all be accomplished manual approaches or machine-aided approaches.

The initial treatments, where material sizes are expected to be the largest, will involve:

- Hand grubbing – digging out with hand tools;
- Excavation – Using light-to-medium weight "stick-and-boom" machines;
- Mowing – Using hand-guided or rider operated equipment;
- Tilling – Incorporating material into the soil surface using disc-mounted light-to-medium weight equipment;
- On-site reduction – Using hand-held equipment, mastication heads mounted on light-to-medium weight equipment, or chippers, or;
- Off-site removal – Transportation to a designated on-property location for reduction.

Seasonal maintenance, the duration of which will be dependent on annual field observations of the IS presence situation, will involve:

- Hand grubbing;
- Mowing;
- Tilling;
- Prescribed herbivory (pending review and approval of final plan);
- On-site reduction, or;
- Off-site removal

General Guiding Principles

The VMRxs prepared for use in guiding wildfire hazard risk reduction are designed to meet:

- Applicant's wildfire hazard risk reduction goals and objectives;
- Requirements of the RCD of Monterey County Public Works Plan, including forest health goals;
- Requirements set out in the California State Board of Forestry's CalVTP PEIR, and;
- Requirements of the California Coastal Commission in their role as a regulatory agency authorizing the proposed project pursuant to the PWP.

Commonly Used Vegetation Management Practices

In any vegetation formation where there is a well-defined structure whose elements include, 1) a surface layer of low-growing vegetation and downed woody material, 2) a layer of significant thickness that starts at the surface layer and extends up to the ***crown base height*** position, and 3) the crown layer, a management practice that meets professionally established standards the project will use a "thinning from below" treatment. In fuels management situations this treatment approach focuses on removal of vegetation material from the surface, and in the area between the surface layer and the crown base height, thus breaking up ***fuel bed continuity*** in a vertical direction. Where removal of individual trees from a position in the crown is a determined requirement, they will typically be those that:

- Pose an immediate and significant danger to the resort's guests, staff, facilities, and emergency responders;
- Are considered suppressed due to restricted access to light sources as a result of lower crown positions. These individuals are more susceptible to environmental stressors (drought, pathogens, etc.) and early mortality, and;

- Species ranked highly for removal per management decisions and the guidelines set out in the VMRx set (e.g. a vector for Sudden Oak Death).

When effecting fuels reduction in brush formations a commonly used approach, that meets professionally established standards, is to create mosaics of "islands" of the original cover with intervening spaces converted to grass/forb formations[3 and 4]. This process creates a high degree of fuel-bed discontinuities, results in a wildfire behavior that is easier to bring under control, and allows the ability to conserve significant surface occupation by the original covering formation.

Treatment area delineation using flag lines will be employed only for initial treatments. Because of the self-evident nature of the treated areas they will not be deployed for maintenance, unless prescribed herbivory is to be used, where enclosure structures will be the defining element.

Management Prescriptions

Management Prescription: *Sequoia sempervirens* Forest and Woodland Association

Setting

Treatment Area
22.62 acres

Basic Management Approach
An Initial Treatment that is known as Thinning from Below (TFB).

Vegetation Characteristics
This fuel type is represented entirely by coast redwood-dominated forest. The current stands are second growth with a large percentage of mature trees. "Fairy Rings" are present throughout the formation and are to be considered a sensitive feature wherever present and will not be altered. There are low numbers of codominant species and no observed impacts from the Sudden Oak Death pathogen. Currently the stands are being managed to assure the safety of the Resort's clientele and ecological functioning.

Sensitive Resources
The sensitive biological resources (individual plant (green-shading) and animal (un-shaded) species and associated groups) that will need to be considered when project actions specific to the Conifer Dominated Forest are implemented are shown in Table 3, below.

Table 3.Sensitive Resources Considered.

Species	FT	FE	CT	C E	SSC	GR	CR	LoP
Bristlecone (Santa Lucia) fir					X		1B.3	L
Little Sur manzanita						G2S2	1B.2	M
Dune buckwheat								L

[3] Brackebush, A.P. October,1973.
[4] Duncan, Brean Wheeler, et.al. July, 2015.

Coast buckwheat								L
Hutchinson's larkspur							1B.3	M
Monarch butterfly					CFL			L
Smith's blue butterfly		X						L
Monterey dusky-footed woodrat					X			M
California red-legged frog	X							L
Foothill yellow-legged frog		X		X				L
MBTA protected bird species								H
Actively nesting bird species								H

MBTA: Migratory Bird Treatment Act FT: Federal Threatened FE: Federal Endangered CT: California Threatened
CE: California Endangered SSC: Species of Special Concern GR: Global Ranking CR: California Ranking LoP: Likelihood of Presence
L: Low M: Moderate H: High CFL: Candidate for Listing X: Meets qualifications for designation PFL: Proposed for Listing

In addition to the specific sensitive resources listed above, the floristic characteristics do represent the presence of the CNPS *Sequoia sempervirens* Forest and Woodland Alliance and as such is considered an Environmentally Sensitive Habitat Area (ESHA). The prescriptive actions in this VMRx have been formulated in order to be consistent with the canopy percentage requirements laid out in the "Membership Rules" of this Alliance (>50% relative cover in the tree canopy).

Prescribed Treatment Activities

General Approach

Removal of wildfire fuels using a "thin from below" (TFB) treatment approach. Primary focus will be on woody fuels located across the surface of the ground and occupying the space from the ground's surface into the overhead canopy (where feasible and referred to as "ladder fuels"). Side-limb removal, also referred to as bole pruning, is to be accomplished up to a height of 12' or the crown base height (CBH) point, whichever is lower. Tree removal of stems greater than 12" DBH will be considered to create reasonably-sized openings in the overhead canopy in order to 1) lower fuel loading levels in the canopy, 2) increase the spacing between individual crowns for increased light penetration to the understory, and 3) create habitat diversity in order to support species diversity. For Ecological Restoration/Forest Health treatment areas, the final target density will be 75 – 100 trees per acre, representative of pre-fire suppression densities. Within Ecological Restoration/Forest Health areas, pockets of understory vegetation and large downed woody debris will also be retained for habitat (as described below).

- In ecological restoration/forest health treatment areas (i.e., outside 100 ft. defensible space buffers and electrical distribution line clearance prisms), achieve forest health and habitat objectives by retaining woodrat middens for wildlife habitat; retaining woody debris in strategic locations to maintain forest floor complexity while reducing fuel connectivity. While masticating, operators would minimize disturbance to down wood greater than 12 inches in diameter where feasible, only moving large pieces of woody debris when necessary to reduce fire behavior or gain access to larger portions of treatment areas, with a per acre retention target of 1–4 downed logs 15 feet in length and greater than or equal to 12 inches in diameter per acre;
- Retain a mosaic of native shrubs at a spacing of 75–100 feet between crowns, where the combined crown for each clump is approximately 15–25 feet wide, unless those shrubs contribute directly to ladder fuels. Retention of less common native shrubs (e.g., coffeeberry and toyon) would be prioritized over common shrubs (e.g., poison oak);

- Retain existing native forb and grass species to the extent practicable;
- Retain 1 - 2 snags per acre, prioritizing those with cavities where feasible/appropriate.

Pre-operational Preparation

Task 1 – Prepare implementation guideline materials in English and Spanish.

Task 2 – Conduct reconnaissance-level surveys by qualified specialists for the presence of special status plant and animal species (SSS), or those of management interest (MI), listed in the following table. The table also shows the reason for inclusion (RFI) as a subject species or group in the survey effort and the relevant periods of activity and or recognizable features that will be relevant to the timing of the surveys.

Table 4. Justification for Considering Sensitive Species Associated with the Coast Redwood Alliance.

Form	Scientific Name	Common Name	RFI	Protocol Periods
Plant Species	*Abies bracteata*	Bristlecone fir	SSS, MI	n/a
	Acer macrophyllum	Big-leaf maple	MI	n/a
	Arbutus menziesii	Pacific Madrone	MI	n/a
	Arctostaphylos edmunsii	Little Sur Manzanita	SSS	FP: Nov. thru Apr.
	Adenostoma fasciculatum	Chamise	SSS	FP: Jun. thru Aug.
	Eriogonum latifolium	Coast Buckwheat	Host plant	FP: Jul. thru Sept.
	Eriogonum parvifolium	Dune Buckwheat	Host plant	FP: All year
	Notholithocarpus densiflorus	Tanoak	MI	n/a
	Pseudotsuga menziesii	Douglas-fir	MI	n/a
	Umbellularia californica	California Bay	MI	n/a
	Invasive species	Numerous species	MI	n/a
Animal Species	*Danaus plexippus plexippus*	Monarch Butterfly	SSS	Presence: Oct. thru Jun.
	Euphiloides enoptes smithi	Smith's Blue Butterfly	SSS	Presence: Aug. thru Nov.
	Rana boylii	Foothill Yellow-legged Frog	SSS	Resident
	Rana draytonii	California Red-legged Frog	SSS	Resident
	MBTA species	Migratory Bird Treaty Act	SSS	Feb. thru Aug.
	Nesting birds	All species	SSS, MI	Feb. thru Aug.

SSS: Special Status Species MI: Management Interest RFI: Reason for Inclusion FP: Flowering Period

Task 3 – Prepare area for treatment by conducting the following actions:

- Mark, with a highly-visible flag line, the boundaries of the treatment area;
- Based on the results of the reconnaissance-level surveys identify, flag, or physically protect with buffers, all SSS species to be retained during the initial treatment, and;
- Mark for removal, using standard forestry procedure (horizontal paint mark at breast height (~4.5') and a conspicuous stump mark) all hazard tree boles with diameters at breast height greater than 12".

Task 4 – Conduct on-site training for contractor crews.

Initial Treatment

Within the context of:

- Maintaining compliance with the MCV Membership Rules for the *Sequoia sempervirens* Forest and Woodlands Alliance, and,

Incorporating the results of the reconnaissance-level survey, design and implement the prescribed TFB management comprised of the following actions:

CDF IT-1 – Within the flagged treatment area remove and reduce all woody species forming the surface fuel bed using either machine mastication, or, manual removal, with reduction accomplished by either use of a mobile chipper or a lop-and-scatter process. The specific method selected for accomplishing the removal/reduction will be based on a professional-level process that will consider 1) nature of the fuels to be removed, 2) amount of fuel to be removed, 3) presence of SSS or MI species, 4) terrain slope, and 5) proximity to guest presence and/or resort infrastructure.

CDF IT-2 – Where the lop-and-scatter method is employed for materials with small-end diameters less than 6", maximum piece length is to be four (4) feet and the surface fuel bed thickness is no greater than 6 inches.

CDF IT-3 – Within the flagged treatment area remove woody brush and scrub species, and individual healthy trees with bole diameters no greater than twelve (12) inches DBH, that occupy the zone from the surface into the lower portion of the overstory crown. The priority for removal for involved species are set out in the table below. Where it is professionally recommended, individual hazard trees with diameters greater than 12" DBH will be marked for removal by a qualified individual[5] using forest industry-standard marking protocol (highly visible horizontal paint stripe at breast height and a conspicuous stump mark below the cut point).

Table 5. Vegetation/Removal Priorities – Sequoia Sempervirens Forest and Woodland

Vegetation Removal Priorities		
Removal Priority[1]	Species	Additional Comments
1	*Umbellularia californica*	Remove no greater than 30% of the estimated current basal area
1	Hazardous trees	Remove all per professional recommendation
2	Invasive species	See Table 2 and the "Invasive Species Control" section, PSA Page 19
2	Eucalyptus globulus	Remove all individuals
3	Toxicodendron diversilobum	Remove all individuals
Vegetation Retention Priorities		
Retention Priority[2]	Species	Additional Comments
1	*Sequoia sempervirens*	Subject to hazardous condition
2	*Abies bracteata*	
3	*Arbutus menziesii*	
3	*Pseudotsuga menziesii*	
3	*Acer macrophyllum*	
4	*Notholithocarpus densiflorus*	Depending on condition with respect to SOD

[1] See hierarchy level explanations; Page 4 [2] See hierarchy level explanations; Pages 4 and 5

CDF IT-4 – Remove limb material on residual trees up to a distance of either twelve (12) feet or to the crown base height (if less than 12') using hand-held equipment. On-site reduction of the cut material to be accomplished by either use of a mobile chipper or the lop-and-scatter method (with resulting specification equal to those in Item 2, above).

[5] ISA-certified Arborist, California Registered Professional Forester or their designee.

Sese IT-5 – Remove all trees considered by a qualified individual to be hazardous. All reduction of the removed material will be accomplished on-site and will be deposited within the boundaries of the treatment area. Bole materials with small-end diameter greater than 6" will be lopped into pieces between 6' and 8' in length. There are to be three reduction options for materials with small-end diameters less than 6", 1) chainsaw lopping into pieces no longer than 48", 2) use of a mobile size-appropriate chipper, or 3) mastication.

Prescriptive Guidance for Individual Species

- Coast Redwood (*Sequoia sempervirens*) Retain all redwood species greater than 12" DBH unless they are determined by a qualified individual to be:
    - Suppressed, or,
    - Hazardous;
- Remove stump sprouts from around the base of individual trees or the perimeters of distinct groups;
- Remove limb materials up to a height of twelve (12) feet using hand held equipment;
- Conduct on-site reduction of cut material employing machine mastication, mechanical chipper, or manual "lop and scatter" (where maximum piece is to be 48" and maximum depth of fuel bed is 6"), and;
- With the exception of the removal of perimeter stumps sprouts and hazardous individuals, there is to be no alternation of the structures known as "fairy rings".

Bristlecone, or Santa Lucia, fir (*Abies bracteata*)

- Retain all trees that are not considered hazardous.
- Bole prune up to 12' or the Crown base height

California Bay (*Umbellularia californica*)

- Remove all trees, regardless of stature or bole diameters, that have been determined by a qualified individual to be hazardous or with an ongoing SOD infection.
- Remove all trees with individual bole sizes of up to 12" DBH where they are present in the zone below the crown base height (ladder fuels);
- Remove trees with individual bole sizes of up to 16" DBH where they are present in the crown area, with the removal not to exceed 25% of the species existing crown percentages, and;

Pacific Madrone (*Arbutus menziesii*)

- Remove all trees, regardless of stature or bole diameters, that have been determined by a qualified individual to be hazardous, and;
- Remove all trees with individual bole sizes of up to 6" DBH where they are present in the zone below the crown base height (ladder fuels);
- Remove trees with individual bole sizes of up to 12" DBH where they are present in the crown area, with the removal not to exceed 25% of the species existing crown percentages;
- On-site fuels reduction will be accomplished by machine mastication, mechanical chipper, or manual "lop and scatter" (where maximum piece is to be 48" and maximum depth of fuel bed is 6").

Tanoak (*Notholithocarpus densiflorus*)

- Remove all trees, regardless of stature or bole diameters, that have been determined by a qualified individual to be hazardous or with an ongoing SOD infection, and;
- Remove all trees with individual bole sizes of up to 8" DBH where they are present in the zone below the crown base height (ladder fuels);
- Remove trees with individual bole sizes of up to 12" DBH where they are present in the crown area, with the removal not to exceed 25% of the species existing crown percentages;
- On-site fuels reduction will be accomplished by machine mastication, mechanical chipper, or manual "lop and scatter" (where maximum piece is to be 48" and maximum depth of fuel bed is 6").

Douglas-fir (*Pseudotsuga menziesii*)

- Remove all trees, regardless of stature or bole diameters, that have been determined by a qualified individual to be hazardous, and;
- Remove all trees with individual bole sizes of up to 8" DBH where they are present in the in the zone below the crown base height (ladder fuels);
- Remove trees with individual bole sizes of up to 12" DBH where they are present in the crown area, with the removal not to exceed 25% of the species existing crown percentages;
- On-site fuels reduction will be accomplished by machine mastication, mechanical chipper, or manual "lop and scatter" (where maximum piece is to be 48" and maximum depth of fuel bed is 6").

Trees, shrubs, down logs providing notable wildlife habitat

- Based on numbers actually present, retain up to two (2) individual trees (alive or dead) per acre, unless their retention creates a hazardous situation, and;
- If side-limb material is present bole prune up to 8', and;
- On-site fuels reduction will be accomplished by machine mastication, mechanical chipper, or manual "lop and scatter" (where maximum piece is to be 48" and maximum depth of fuel bed is 6").
- Retain down logs with objective of retaining three 1 - 4 logs 15' in length and greater than or equal to 12" diameter.
- Retain a mosaic of native shrubs, unless they contribute to ladder fuels.

Maintenance Treatments

Prior to implementing any maintenance actions conduct a visual inspection of the treated area to determine the nature of the species reoccupying the site. Using the results for the inspections determine the potential for the regeneration to increase desirable species composition percentages. Encouraging species diversity must be accomplished within the framework of managing fuels (as accomplished in the initial treatment phase), and needs to be consistent with maintaining fuelbed discontinuities.

Employing a three (3) to five (5) year re-entry rotation complete the following actions:

;

- Identify species that have high priorities for retention and flag, or provide physical protection, for them;
- Maintain surface fuel conditions using mastication, hand methods, or prescribed herbivory, and,

- Maintain “ladder” fuel conditions (individual trees and limb materials) using either mastication or hand-held equipment with reduction of the cut material to be accomplished by either use of a mobile chipper or the lop-and-scatter method (with resulting specification equal to those in Item 2 from the section above).
- Utilize prescribed herbivory following review and approval of prescribed herbivory plan by the CCC Executive Director

Management Prescription: Coast Live Oak Forest and Woodland Alliance

Setting

Treatment Area

24.12 acres

Basic Management Approach

Thin from below (TFB) with minimal levels of crown spacing.

Vegetation Characteristics

These are stands of hardwood trees with a clear dominance by *Quercus agrifolia* (Coast live oak) with minor inclusions of other hardwoods. However, highly localized groups of California bay have the possibility of attaining a composition percentage that could support consideration as a co-dominant. The spatial arrangement of the formation across the landscape varies from the open stands of an oak savannah condition, to stands with 100% crown closure. The stands show total heights within a range of 25’ to 40’ with CBH’s in the 8’ to 12’ range.

Sensitive Resources

The sensitive biological resources (individual plant (green-shading) and animal (un-shaded) species and associated groups) that will need to be considered when project actions specific to the Mixed Hardwood Woodland are implemented are shown in Table 6, below.

Table 6. Regulatory Status of Sensitive Species Associated with the Coast Live Oak Alliance.

Species	FT	FE	CT	CE	SSC	GR	CR	LoP
Bristlecone (Santa Lucia) fir					X		1B.3	L
California bay laurel						G4	S3	H
Little Sur manzanita						G2S2	1B.2	M
Hutchinson’s larkspur							1B.3	M
Monarch butterfly					CFL			M
California red-legged frog	X							L
Foothill yellow-legged frog		X			X			L
MBTA protected bird species								H
Actively nesting bird species								H

FT: Federal Threatened FE: Federal Endangered CT: California Threatened CE: California Endangered
SSC: Species of Special Concern GR: Global Ranking CR: California Ranking LoP: Likelihood of Presence L: Low
M: Moderate H: High CFL: Candidate for Listing X: Meets qualifications for designation PFL: Proposed for Listing

In addition to the specific resources listed above the floristic characteristics do represent the presence of the CNPS *Quercus agrifolia* Forest and Woodland Alliance and as such is considered an Environmentally Sensitive Habitat Area. The prescriptive actions in this VMRx have been formulated in order to be consistent with the canopy percentage requirements laid out in the "Membership Rules" of this MCV Alliance, i.e. at least 50% relative cover of the dominant oaks in the tree canopy or at least 33% relative cover of the oaks in the tree canopy if in a co-dominant situation.

Prescribed Treatment Activities

General Approach

Removing wildfire fuel amounts and altering the fuel bed structures will be accomplished by using a thin from below (TFB) treatment approach. Primary focus will be on woody fuels located across the surface of the ground and occupying the space from the ground's surface into the overhead canopy (where feasible and referred to as "ladder fuels"). Side-limb removal, also referred to as bole pruning, is to be accomplished up to a height of 8' or, if it lower, the crown base height (CBH) point. Consideration will also be given to creating reasonably-sized openings in the overhead canopy in order to 1) lower fuel loading levels in the canopy, 2) increase the spacing between individual crowns, and 3) create habitat diversity in order to create greater species diversity. Treatment will be based on removal, and on-site reduction, of whole individual species and branch materials. Where appropriate, crown spacing (a breaking up of the horizontal and vertical fuel beds) will be accomplished through the removal of individual, or small (three tree or less) groups of trees. The species to be removed will be selected on the basis of their hierarchal removal priority. For Ecological Restoration/Forest Health treatment areas, the final target density will be 50 – 75 trees per acre, representative of pre-fire suppression densities. Within Ecological Restoration/Forest Health areas, pockets of understory vegetation and large downed woody debris will also be retained for habitat (as described below).

- In ecological restoration/forest health treatment areas (i.e., outside 100 ft. defensible space buffers and electrical distribution line clearance prisms), achieve forest health and habitat objectives by retaining woodrat middens for wildlife habitat; retaining woody debris in strategic locations to maintain forest floor complexity while reducing fuel connectivity. While masticating, operators would minimize disturbance to down wood greater than 12 inches in diameter where feasible, only moving large pieces of woody debris when necessary to reduce fire behavior or gain access to larger portions of treatment areas, with a per acre retention target of 1–4 downed logs 15 feet in length and greater than or equal to 12 inches in diameter per acre;
- Retain a mosaic of native shrubs at a spacing of 75–100 feet between crowns, where the combined crown for each clump is approximately 15–25 feet wide, unless those shrubs contribute directly to ladder fuels. Retention of less common native shrubs (e.g., coffeeberry and toyon) would be prioritized over common shrubs (e.g., poison oak);
- Retain existing native forb and grass species to the extent practicable;
- Retain 1 - 2 snags per acre, prioritizing those with cavities where feasible/appropriate.

Pre-operational Preparation

Task 1 – Prepare implementation guideline materials in English and Spanish.

Task 2 – Conduct reconnaissance-level surveys by qualified specialists for the presence of special status plant and animal species (SSS), or those of management interest (MI), listed in the following table. The table also shows the reason for inclusion (RFI) as a subject species or group in the survey effort and the relevant periods of activity and or recognizable features that will be relevant to the timing of the surveys.

Table 7. Consideration Justification for Sensitive Species Associated with the Coast Live Oak Alliance.

Form	Scientific Name	Common Name	RFI	Protocol Periods
Plant Species	*Abies bracteata*	Bristlecone fir	SSS, MI	n/a
	Acer macrophyllum	Big-leaf maple	MI	n/a
	Adenostoma fasciculatum	Chamise	SSS	FP: Jun. thru Aug.
	Arbutus menziesii	Pacific Madrone	MI	n/a
	Artemisia californica	California sage	MI	Apr. thru Oct.
	Umbellularia californica	California Bay	MI	n/a
	Invasive Species		MI	
Animal Species	*Rana draytonii*	California Red-legged Frog	SSS	Resident
	Neotoma macrotis luciana	Monterey dusky-footed woodrat	SSC	Year-round
	MBTA species	Migratory Bird Treaty Act	SSS	Feb. thru Aug.
	Nesting birds	All species	SSS, MI	Feb. thru Aug.

RFI: Reason for Inclusion SSS: Special Status Species MI: Management Interest FP: Flowering Period

Task 3 – Prepare area for treatment by conducting the following actions:

- Mark, with a highly-visible flag line, the boundaries of the treatment area;
- Based on the results of the reconnaissance-level surveys identify, flag, or physically protect, all species to be protected and retained during the initial treatment, and;
- Mark trees that 1) have been selected for removal for the purposes of reducing wildfire risk, and 2) hazard trees that have bole diameters at the larger end of 12" or greater, using standard forestry procedure (horizontal paint mark and a conspicuous stump mark).

Initial Treatment

Within the context of:

- Maintaining compliance with the MCV Membership Rules for the Coast Live Oak Alliance, i.e. retaining at least 50% relative cover of the dominant oaks or 33% relative cover of the oaks if in a co-dominant situation, and;
- Incorporating the results of the reconnaissance-level survey (e.g. flagging and avoidance, if applicable), design and implement the prescribed TFB and crown spacing management actions comprised of the following actions:

MHW IT-1 – Within the flagged treatment area remove and reduce all woody species forming the surface fuel bed using either machine mastication, or, manual removal with reduction accomplished by either use of a mobile chipper or lop and scatter. The specific method selected for accomplishing the removal/reduction will be based on a professional-level process that will consider 1) nature of the fuels to be removed, 2) amount of fuel to be removed, 3) presence of SSS or MI species, 4) terrain slope, and 5) proximity to guest presence and/or resort infrastructure. If, in the judgment of the overseeing professional, crown spacing is warranted remove up to three trees at any one location in accordance with the hierarchal removal priorities in Table 8, below.

Table 8. Vegetation/Removal Priorities – Coast Live Oak Forest and Woodland

Vegetation Removal Priorities		
Removal Priority[1]	Species	Additional Comments
1	*Umbellularia californica*	Remove no greater than 30% of the estimated current basal area
1	Hazardous trees	Remove all per professional recommendation
2	Invasive species	See Table 2 and the "Invasive Species Control" section, PSA Page 19
2	*Eucalyptus globulus*	Remove all individuals
3	*Toxicodendron diversilobum*	Remove overstocked patches
Vegetation Retention Priorities		
Retention Priority[2]	Species	Additional Comments
1	*Sequoia sempervirens*	Subject to hazardous condition
1	Other *Quercus* species	Subject to hazardous condition
2	*Abies bracteata*	
3	*Arbutus menziesii*	
3	*Artemisia californica*	
3	*Adenostoma fasciculatum*	

[1] See hierarchy level explanations; Page 4 [2] See hierarchy level explanations; Pages 4 and 5

MHW IT-2 – Where the lop-and-scatter method is employed maximum piece length is to be four (4) feet and the surface fuel bed thickness is no greater than 6 inches.

MHW IT-3 – Within the flagged treatment area remove woody brush and scrub species, and individual healthy trees with bole diameters no greater than 12" inches DBH, that occupy the zone from the surface into the lower portion of the overstory crown. The priority for removal for involved species are set out in the table above. Where it is professionally recommended that individual boles with diameters greater than 12" be removed, they are to be marked by a qualified individual using forest industry-standard marking protocol (high visible horizontal paint stripe at breast height and a conspicuous stump mark below the cut point).

MHW IT-4 – Remove limb material on residual trees up to a distance of either 8' feet or to the crown base height (if less than 8') using hand-held equipment. On-site reduction of the cut material to be accomplished by either use of a mobile chipper or the lop-and-scatter method (with resulting specification equal to those in Item 2, above).

MHW IT-5 – Remove all trees considered by a qualified individual to be hazardous. All reduction of the removed material will be accomplished on-site and will be deposited within the boundaries of the treatment are. Bole materials with small-end diameter greater than 6" will be lopped into pieces between 6' and 8' in length. There are to be three reduction options for materials with small-end diameters less than 6", 1) chainsaw lopping into pieces no longer than 48", 2) use of a mobile size-appropriate chipper, or 3) mastication.

Prescriptive Guidance for Individual Species

Coast Redwood (*Sequoia sempervirens*)

- Retain all redwood trees unless they are, determined by a qualified individual to be:
    - Suppressed, or,
    - Hazardous;

- Remove stump sprouts from around the base of individual trees or the perimeters of distinct groups;
- Remove limb materials up to a height of twelve 12' or to CBH, whichever is lower, using handheld equipment;
- Conduct on-site reduction of cut material employing machine mastication, mechanical chipper, or manual "lop and scatter" (where maximum piece is to be 48" and maximum depth of fuel bed is 6"), and;

Bristlecone, or Santa Lucia, fir (*Abies bracteata*)

- Retain all trees that are not considered hazardous, and;
- Bole prune up to 12' or to CBH, whichever is lower.

California Bay (*Umbellularia californica*)

- Remove all trees with individual bole sizes of up to 8" DBH where they are present in the in the zone below the crown base height (ladder fuels);
- Remove trees with individual bole sizes of up to 16" DBH where they are present in the crown area, with the removal not to exceed 25% of the species' existing basal area, and;
- Remove all trees, regardless of stature or bole diameters, that have been determined by a qualified individual to be hazardous or with an ongoing SOD infection.

Pacific Madrone (*Arbutus menziesii*)

- Remove all trees with individual bole sizes of up to 6" DBH where they are present in the in the zone below the crown base height (ladder fuels);
- Remove trees with individual bole sizes of up to 12" DBH where they are present in the crown area, with the removal not to exceed 25% of the species existing crown percentages, and;
- On-site fuels reduction will be accomplished by machine mastication, mechanical chipper, or manual "lop and scatter" (where maximum piece is to be 48" and maximum depth of fuel bed is 6").

California Sage (*Artemisia californica*)

- Remove only individuals that will receive high levels of insolation and contribute to the continuous fuel bed.

Chamise (*Adenostoma fasciculatum*)

- Remove only individuals that will receive high levels of insolation and contribute to the continuous fuel bed.

Trees and down logs providing notable wildlife habitat

- Based on numbers actually present, retain up to two (2) individual trees (alive or dead) per acre that have elevated wildlife habitat potential, unless their retention creates a hazardous situation, and;
- If side-limb material is present bole prune up to 8", and;
- On-site fuels reduction will be accomplished by machine mastication, mechanical chipper, or manual "lop and scatter" (where maximum piece is to be 48" and maximum depth of fuel bed is 6").

- Minimize disturbance to down wood greater than 12 inches in diameter where feasible, only moving large pieces of woody debris when necessary to reduce fire behavior or gain access to larger portions of treatment areas, with a per acre retention target of 1–4 downed logs 15 feet in length and greater than or equal to 12 inches in diameter per acre.

Maintenance Treatments

Prior to implementing any maintenance actions conduct a visual inspection of the treated area to determine the nature of the species reoccupying the site. Using the results of the inspections determine the potential for the regeneration to increase desirable species composition percentages. Encouraging species diversity must be accomplished within the framework of managing fuels (as accomplished in the initial treatment phase), and needs to be consistent with maintaining fuelbed discontinuities.

Employing a three (3) to five (5) year re-entry rotation complete the following actions:

- Establish the maintenance treatment area by either by placing a highly visible flag-line around the perimeter (where motorized equipment will be used) or placement of containment fencing where herbivores will be used,using a goat grazing plan (see Attachment E) pending CCC Executive Director review;
- Identify species that have high priorities for retention and flag, or provide physical protection, for them;
- Maintain surface fuel conditions using mastication, hand methods, or potentially prescribed herbivory, and;
- Maintain "ladder" fuel conditions (individual trees and limb materials) using either mastication or hand-held equipment with reduction of the cut material to be accomplished by either use of a mobile chipper or the lop-and-scatter method (with resulting specification equal to those in Item 2 from the section above)

Management Prescription: Brush/Scrub Formations (B/SF)

Setting

Treatment Area

4.76 acres

Basic Management Approach

Area Management or Group Selection (Mosaicking)

Vegetation Characteristics

This fuel type is represented by a single-layer brush/shrub formation with a moderate number of different species within the formation-wide species composition. The formation has a total surface occupation cover percentage that varies from 80% to 100% with stand heights ranging from 3' to 6'. Within the AVBS PTA the 4.76-acre area covered by the formation has actually mapped out into seven sub-areas that will be subject to the management prescribed herein.

Given the combination of 1) the number of different species that were observed to be present and 2) the relatively small surface area over which species composition dominance trends could be observed, identifying whether any of the specific brush-related CNPS alliances were present was problematic. However, none of the alliances identified as having the potential to be present are considered 'Sensitive' by the CNPS ranking (i.e., S1-S3) are not considered ESHA and therefore does not present a management concern.

Species associated with the following CNPS Alliances that were given consideration in the design and implementation of this proposed Project are listed below and shown in Table 9:

- *Baccharis pilularis* Shrubland Alliance (Coyote brush scrub: CDFW CA Code 32.060.00), with State and Global rarity rankings of S5 and G5;
- *Adenostoma fasciculatum* Shrubland Alliance (Chamise chaparral: CDFW CA Code 31.101.00), with State and Global rarity rankings of S5 and G5, respectively;
- *Toxicodendron diversilobum* Shrubland Alliance (Poison oak scrub: CDFW CA Code 37.940.00), with State and Global rarity rankings of S4 and G4, respectively, and;
- *Cytisus scoparius, Genista monspessulana, Cotoneaster* spp. Shrubland Semi-Natural Alliance (Broom patches CDFW CA Code 32.180.00), with no State or Global rarity ranking designations.

Furthermore, the broom patches are characterized by species with high Cal-IPC ratings[6] and addressed on the California State and Monterey County Invasive Plant Species List. As such they are being slated for high priority removal in all of the VMRxs.

Conservation of the current species mix was addressed in the operational task where the "islands" to be retained were formulated.

Pre-operational Preparation

Task 1 – Prepare implementation guideline materials in English, Spanish, and any other languages as appropriate.

Task 2 – Conduct reconnaissance-level surveys by qualified specialists for the presence of special status plant and animal species (SSS), or those of management interest (MI), listed in the following Table B/SF-1. The table also shows the reason for inclusion (RFI) as a subject species or group in the survey effort and the relevant periods of activity and or recognizable features that will be relevant to the timing of the surveys.

Table 9. Justifications for Considering Sensitive Species Associated with the Brush/Scrub Formation.

Form	Scientific Name	Common Name	RFI	Protocol Periods
Plant Species	*Adenostoma fasciculatum*	Chamise	SSS	FP: Jun. thru Aug.
	Arctostapylos edmunsii	Little Sur manzanita	SSS	FP: Nov. thru Apr.
	Artemisia californica	California sage	MI	Apr. thru Oct.
	Ceanothus cuneatus	Wedge-leaf Ceanothus	MI	FP: Feb. thru Apr.
	C. integerrimus	Deer brush	MI	FP: May thru Jun.
	C. thyrsiflorus	Blueblossom	MI	FP: Mar. thru May
	Cotoneaster spp.	Cotoneaster	CNPS AM	FP: May. thru Jul
	Cytisus scoparius	Scotch broom	CNPS AM	FP: Mar. thru May
	Eriogonum latifolium	Coast Buckwheat	MI	FP: Jul. thru Sept.

[6] California Invasive Plants Council. Accessed January, 2024.

	E. parvifolium	Dune Buckwheat	MI	FP: All year
	Genista monsessulana	French broom	CNPS AM	FP: Mar. thru May
	Heteromeles arbutifolia	Toyon	MI	FP: Jun. thru Aug.
	Toxicodendron diversilobum	Poison oak	MI	FP: Mar. thru Jun.
	Invasive species	Numerous species	MI	
Animal Species	*Euphiloides enoptes smithi*	Smith's Blue Butterfly	SSS	Presence: Aug. thru Nov.
	Rana draytonii	California Red-legged Frog	SSS	Resident
	MBTA species	Migratory Bird Treaty Act	SSS	Feb. thru Aug.
	Nesting birds	All species	SSS, MI	Feb. thru Aug.

RFI: Reason for Inclusion SSS: Special Status Species MI: Management Interest
CNPS AM: California Native Pant Society Semi-Natural Alliance Member FP: Flowering Period

Management Approach

The management described herein will not be based on the removal of individual species in order to attain the objectives of, 1) reducing absolute fuel volumes, 2) altering fuel-bed continuities, 3) gaining better control over wildfire behavior, and 4) assuring proper ecological functioning of the existing formation. In the initial management phase, this proposed, and industry standard, approach will create "islands" of the brush/scrub formation that, upon completion of the management will occupy 50% to 60% of the total 4.76-acre PTA. These "islands" will receive no management; leaving them in an untouched condition. All brush/scrub species are to be removed from the areas in between the "islands" leaving behind low-growing herbaceous species. The ongoing maintenance's primary object is to keep the inter-island spaces free of reoccupation by woody species. Figure B/SF-1 shows an example of the management pattern. The orange lines represent the boundary of the formation and the green polygons represent the "islands" of un-touched Brush/Shrub Formation.

Figure 1. Hypothetical Distribution of Retained Un-Touched Patches of Scrub/Brush.

Prescribed Management Actions

Initial Treatment

B/SF IT-1 – Using the species presence information resulting from the reconnaissance, identify portions of the existing formation that demonstrate high species diversity to prioritize for retained "islands."

B/SF IT-2 – Using high visibility flag lines delineate areas that are to be retained:

- Whose long axis is aligned on contour;
- Has a short axis with an up-slope distance that between 20' and 30'.
- Has an along-contour distance between 50' and 60'.

B/SF IT-3 – Using either hand operated saws, or a no greater than medium weight tracked vehicle mounted with a mastication head, remove all of the vegetation in the areas between the delineated "islands".

B/SF IT-4 – Complete on-site reduction of the removed vegetation creating surface fuel beds no greater than 6" in depth.

Maintenance Management

Based on regrowth characteristics, restore the fuels conditions that had resulted from the Initial Treatment on 2-4 year rotation. Vegetation removal would be accomplished through the use of hand operated saws, mechanized mowing equipment, or potentially prescribed herbivory. Hand methods would be applied where slopes exceed 50% due to operational risks associated with the use of light-, or medium-, weight equipment. If mechanized mowing is to be employed the cut material must be evenly distributed over the surface and result in fuel beds no greater than 6" in depth. If prescribed herbivory is to be employed a final plan will be reviewed and approved by the CCC Executive Director and wildlife-appropriate barrier fencing must be installed around the islands to exclude incursions by the animals.

Management Prescription: Special Management Situation-Leach Field Cover Crops (LF)

Setting

Treatment Area

1.16 acres (In MUs 3 and 4)

Basic Management Approach

No Initial Treatment required; only annual maintenance – Above ground removal of grass fuels.

Vegetation Characteristics

This Special Management Situation is represented entirely by a sward of non-native plant selected, and planted, for their evapo-transpiratory capabilities. They are part of the Resort's sanitary waste treatment facility and consideration of evolution toward the functioning of natural ecological process is not, nor will be, warranted. The grass species being used are coarse, adapted to higher moisture levels in the soil, grow up to 4' high and require annual removal of the top portions to reduce fire hazards and risks.

Sensitive Resources

Given the specialized use and species required no sensitive plant species are reasonably present. None of the four animal species considered require grassland habitats and there is no reasonable expectation

of presence. Some bird species (including common species and those under the jurisdiction of the MBTA)[7] are ground nesting and will need to be given ongoing consideration.

Prescribed Treatment Activities

General Approach

This VMRx does not contain any actions associated with an Initial Treatment; it does address an annual removal of the grass-, and forb-, related fuels produced as the vegetation matures and dries. On an annual basis, effect a complete removal of above-ground material using either mechanical mowing (mulching type recommended) or prescribed herbivory. After the medial date of seedhead shattering remove the entire above ground accumulation of dried grass. If prescribed herbivory is to be employed a final plan will be submitted for review and approval by the CCC Executive Director.

Pre-operational Preparation

LF Task 1 – Prepare implementation guideline materials in English and Spanish.

LF Task 2 – Conduct reconnaissance-level surveys by a qualified specialist for the presence of active nests of ground dwelling bird species.

LF Task 3 – If prescribed herbivory is to be employed erect "wildlife friendly" barriers around the treatment area, and, if necessary, install watering facilities.

LF Task 4 - Based on the results of the reconnaissance-level surveys identify, flag, or physically protect, all active ground nesting sites with a buffer zone of no less than 300' from the nest location.

LF Task 5 – Deploy the animals in a manner (numbers and time on site) to assure a grazing pressure that does not interfere with the regenerative capability of the sward, pursuant to an approved prescribed herbivory plan.

LF Task 6 – Upon completion of the removal operations remove all boundary marking and sensitive resource protection materials and, if herbivory is employed on-site animal management equipment or materials.

Management Prescription: Special Management Situation-Blue Gum Grove

Setting

Treatment Area

0.33 acres

Basic Management Approach

Full removal of standing material and site preparation for rehabilitation.

[7] Migratory Bird Treatment Act.

Vegetation Characteristics

This stand is composed of sapling and intermediate-sized *Eucalyptus globulus* (designated as an invasive species) trees with essentially no undergrowth due to the degree of shading and the toxicity associated with the eucalyptus detritus that has accumulated.

Sensitive Resources

Although the blue gum is considered as an invasive species, and therefore, designated with a high priority for removal, there are other considerations that need to be addressed. In the Monterey area these eucalyptus groves are associated with overwintering habitat of the Monarch butterfly (*Danaus plexippus plexippus*). Although, as described in greater detail in the AVBS PSA, this insect warrants federal listing but action has been precluded by other situations determined to have higher priority. Regardless, this species must still be considered to have a special interest status and will be addressed by making a determination of the species' presence by identifying it as a subject species for the pre-operational reconnaissance surveys. Should the species be determined to have a presence during the overwintering season, considering that they would only be affected during the blue gum removal, the removal would be scheduled after the overwintering period has concluded. In addition, consideration must be given to MBTA-protected species, and generally, bird species in the process of nesting.

Other than the potential use of this overwintering habitat by the Monarch butterfly species, no other special status individual plant or animal species, were determined to be present within the proposed 0.33-acre treatment area. Furthermore, no special status plant communities or ESHA conditions we noted within the treatment area.

Prescribed Treatment Activities

General Approach

Removal of all trees and wildfire fuels. Treatment will be based on removal, and on-property reduction, of whole individual species and branch materials. There may be an opportunity to utilize logs as firewood. Due to the likely volume of excess organic material, and the allelopathic properties of this tree species, log removal should be encouraged.

Pre-operational Preparation

EG Task 1 – Prepare implementation guideline materials in English and Spanish.

EG Task 2 – Conduct reconnaissance-level surveys by qualified specialists for the presence of the monarch butterfly, MBTA-protected avian species, and active avian species nesting activities.

EG Task 3 – Prepare site for removal operations by implementing the following actions:

- Mark, with a highly-visible flag line, the boundaries of the treatment area;
- Based on the results of the reconnaissance-level surveys identify, flag, or physically protect, all species or activity centers, to be protected and retained during the initial treatment.

Initial Treatment (IT)

EG IT-1 – Remove aerial portion of all eucalyptus trees within the marked treatment area using appropriately-sized hand-operated power tools. Produce stumps as low as possible.

EG IT-2 - For residual leaves, twigs, and branch materials with large end diameters less than 6" reduce using a mobile chipper, and transport the processed material to the on-property staging area.

EG IT-3 – Buck lopped boles into sections and transport them to the on-property staging area.

Subsequent Management (SM)

EG SM-1 – on an annual basis, until not required, prune and remove all stump sprouts.

EG SM-2 – After a third year of stump sprout removal, and general fallowing, conduct soil testing to determine if there is residual toxicity from the occupation by the blue gum that would constrain reforestation with desirable native species.

EG SM-3 – Should soils conditions allow, implement the replacement of the stand with artificial plantings (e.g., planting coast redwood trees).

Management Prescription: Special Management Situation-Electrical Distribution Line Corridors

Setting

Treatment Area

MUs 2 and 6: Total Area Involved = 3.83 acres

- Line Clearance Prism = 0.64 acres
- "Fall-in" Zones = 3.18

Basic Management Approach

Thin from below and create required electrical line facility clearance (poles and lines) with the clearance prism. Outside of the prism, retain the ecological restoration/forest health retention policies listed above for redwoods and coastal live oak woodlands.

Vegetation Characteristics

In this SMS there are three fuel type involved: Redwood-dominated forest (2.90 ac.), mixed hardwood woodlands (0.79 ac.), and grass sward (0.16 ac.). With regard to the redwood the current stands are second growth with a large percentage of mature trees. "Fairy Rings" are present throughout the formation and are to be considered a sensitive feature wherever present. There are low numbers of codominant species and no observed impacts from the Sudden Oak Death pathogen. Currently the stands are being managed to assure the safety of the Resort's clientele and the ecological functioning that is an integral part of Big Sur. The mixed hardwood woodland shows a clear dominance by *Quercus agrifolia* (Coast live oak) with minor inclusions of other hardwoods; with none attaining a composition percentage that would support consideration as a co-dominant. The stands were observed to have crown closure percentage in the 80% to 100% range, total heights within a range of 25' to 40' with CBH's in the 8' to 12' range. The grass sward showed a mixture of short annual and taller perennial grass species and low-growing forbs.

Sensitive Resources

The sensitive biological resources (individual plant (green-shading) and animal (un-shaded) species and associated groups) that will need to be considered when project actions specific to the distribution line SMS are implemented are shown in Table 10, below.

Table 10. Regulatory Status of Sensitive Species: Special Management Situation-Electrical Distribution Line Corridors.

Species	FT	FE	CT	CE	SSC	GR	CR	LoP
Bristlecone (Santa Lucia) fir					X		1B.3	L
California bay laurel						G4	S3	H
Little Sur manzanita						G2S2	1B.2	M
Dune buckwheat						n/r	n/r	L
Coast buckwheat						n/r	n/r	L
Hutchinson's larkspur							1B.3	M
Monarch butterfly					CFL			M
Smith's blue butterfly		X						L
California red-legged frog	X							L
Foothill yellow-legged frog		X			PFL			L
Monterey dusky-footed woodrat					SSC			M
MBTA protected bird species								H
Actively nesting bird species								H

FT: Federal Threatened FE: Federal Endangered CT: California Threatened CE: California Endangered
SSC: Species of Special Concern GR: Global Ranking CR: California Ranking LoP: Likelihood of Presence L: Low
M: Moderate H: High CFL: Candidate for Listing X: Meets qualifications for designation PFL: Proposed for Listing

In addition to the specific resources listed above the floristic characteristics do represent the presence of two CNPS Alliances: *Sequoia sempervirens* and *Quercus agrifolia* Forest and Woodland Alliances. These Alliances are considered as examples of an Environmentally Sensitive Habitat Area and the prescriptive actions in this VMRx have been formulated in order to be consistent with the canopy percentage requirements laid out in their respective "Membership Rules".

General Management Approach

The overriding objectives of managing this special situation is compliance with provisions of:

- California's Public Resources Code (PRC) Sections 4292 and 4293 – vegetation clearance standards, and;
- California Public Utilities' Resolution ESRB-4.

In the initial treatment phase this will require complete removal of vegetation in the zones defined in PRC Sections 4292 and 4293 and removal of additional vegetation per the ability to employ professional judgment described in the PRC sections and the CPUC resolution. Within the framework of maintaining these clearance requirements, in both the initial and maintenance phases, increasing species diversity, as a measure of ecological function restoration, will be addressed by the hierarchal removal and retention priorities established for this VMRx. Coordination with PG&E utility arborists will be important as this utility has ongoing vegetation management underway along these power distribution corridors.

Pre-operational Preparation

Task 1 – Prepare implementation guideline materials in English and Spanish.

Task 2 – Conduct reconnaissance-level surveys by qualified specialists for the presence of special status plant and animal species (SSS), or those of management interest (MI), listed in the following table. The table also shows the reason for inclusion (RFI) as a subject species or group in the survey effort and the relevant periods of activity and or recognizable features that will be relevant to the timing of the surveys.

Table 11. Justifications for Considering Sensitive Species Associated with the Special Management Situation-Electrical Distribution Line Corridors.

Form	Scientific Name	Common Name	RFI	Protocol Periods
Plant Species	*Abies bracteata*	Bristlecone fir	SSS, MI	n/a
	Acer macrophyllum	Big-leaf maple	MI	n/a
	Arctostaphylos edmundsii	Little Sur manzanita	SSS, MI	FP: Nov. thru Apr.
	Adenostoma fasciculatum	Chamise	SSS	FP: Jun. thru Aug.
	Arbutus menziesii	Pacific Madrone	MI	n/a
	Artemisia californica	California sage	MI	Apr. thru Oct.
	Cotoneaster spp.	Cotoneaster	CNPS AM	FP: May. thru Jul
	Cytisus scoparius	Scotch broom	CNPS AM	FP: Mar. thru May
	Eriogonum latifolium	Coast buckwheat	MI	FP: Jul. thru Sept.
	E. parvifolium		MI	FP: all year
	Genista monsessulana	French broom	CNPS AM	FP: Mar. thru May
	Heteromeles arbutifolia	Toyon	MI	Jun. thru Aug.
	Notholithocarpus densiflorus	Tanoak	MI	n/a
	Quercus berberidifolia	Inland scrub oak	MI	Feb. thru Mar.
	Q. dumosa	Nutall's scrub oak	MI	Feb. thru Mar.
	Umbellularia californica	California Bay	MI	n/a
	Invasive species		MI	
Animal Species	*Danaus plexippus plexippus*	Monarch butterfly	CFL	Presence: Oct. thru Jun.
	Euphiloides enoptes smithi	Smith's Blue Butterfly	SSS	Presence: Aug. thru Nov.
	Rana draytonii	California Red-legged Frog	SSS	Resident
	MBTA species	Migratory Bird Treaty Act	SSS	Feb. thru Aug.
	Nesting birds	All species	SSS, MI	Feb. thru Aug.

RFI: Reason for Inclusion SSS: Special Status Species MI: Management Interest FP: Flowering Period

Task 3 – Prepare area for treatment by conducting the following actions:

- Mark, with a highly-visible flag line, the boundaries of the treatment area;
- Based on the results of the reconnaissance-level surveys identify, flag, or physically protect, all species to be protected and retained during the initial treatment, and;
- Mark trees that 1) have been selected for removal, and 2) have bole diameters at DBH of 12" or greater, using standard forestry procedure (horizontal paint mark at breast height (~4.5) and a conspicuous stump mark).

Task 4 – Conduct on-site meeting for operations crews regarding operational procedures and sensitive resource protection requirements.

Operational Management Phases

Initial Treatment

ELCT IT-1 – At locations throughout the two MUs, and according to the hierarchal removal priorities shown in the table below:

- Clear vegetation to bare mineral soil within a circular zone, with a radius of 10', around poles or towers supporting active power distribution lines,
- Remove all vegetation within the full "under-wire surface" zone that extends to a 10' projection beyond the outer-most power distribution lines, of all vegetation capable of producing flames that extend beyond 4' from the surface of the ground, and,
- Remove all vegetation within the adjacent canopy zones that extend out 10" from the outer-most distribution lines

ELCT IT-2 – If present, protect and retain identified tree/scrub/shrub species in consideration of:

- Their special status designations;
- Their production of flame heights that do not reach more than 4' from the surface of the ground, and,
- The need to comply with applicable law and regulations.

The decisions regarding whether a species is designated for removal or retention will follow the priorities set out in the following Table 12.

Table 12. Vegetation Removal/Retention Priorities within the Special Management Situation-Electrical Distribution Line Corridors.

Vegetation Removal Priorities		
Removal Priority[1]	Species	Additional Comments
1	*Umbellularia californica*	Remove no greater than 30% of the estimated current basal area
1	Hazardous trees	Remove all per professional recommendation
2	Invasive species	See Table 2 and the "Invasive Species Control" section, PSA Page 20
2	*Eucalyptus globulus*	Remove all individuals
3	*Toxicodendron diversilobum*	Remove overstocked patches
3	*Heteromeles arbutifolia*	Remove from under-wire clearance prism
Vegetation Retention Priorities		
Retention Priority[2]	Species	Additional Comments
1	*Sequoia sempervirens*	Subject to hazardous condition
1	*Quercus agrifolia*	
1	*Quercus berberidifolia*	For use in under-wire zone
1	*Quercus dumosa*	For use in under-wire zone
1	*Arctostaphylos edmundsii*	For use in under-wire zone
2	*Abies bracteata*	
3	*Artemisia californica*	For use in under-wire zone
3	*Adenostoma fasciculatum*	
3	*Arbutus menziesii*	
3	*Pseudotsuga menziesii*	
3	*Acer macrophyllum*	
4	*Notholithocarpus densiflorus*	Depending on condition with respect to SOD

[1] See hierarchy level explanations; Page 4 [2] See hierarchy level explanations; Pages 4 and 5

ELCT IT-3 – Remove all trees whose root crowns are located within the boundaries of the subject MU and that are designated by a qualified individual to be a clear and present danger to the condition of the power distribution infrastructure. The removed trees are to be limbed and for bole sections with small-end diameters greater than 6" cut into lengths no greater than 4' and left on site. For residual leaves, twigs, branch materials, and root systems with large end diameters less than 6" reduce using hand "lop and scatter", mastication, or mobile chipper, and redistribute the processed material back onto the site in a manner that creates a fuel bed that has a depth no greater than 6".

Maintenance Management

The maintenance management can be accomplished through the use of 1) prescribed herbivory, 2) mastication, mowing and/or chipping equipment, or 3) hand operations. The specific method that will be used will depend on the nature of the regrowth.

ELCT MM-1 – Establish the maintenance treatment area by either by placing a highly visible flag-line around the perimeter (where motorized, or hand-operated, equipment will be used) or placement of wildlife appropriate containment fencing if herbivores will be used (Attachment E) pending CCC Executive Director review;

ELCT MM-2 – Conduct surveys (by a qualified professional) of the sites that are within the boundaries of the MU, but are not in one, or more, of the prescribed zone, for vegetation that poses a clear and present wildfire-related danger to the electrical distribution infrastructure,

ELCT MM-3 – Remove all re-grown vegetation species, to bare mineral soil, within a circular zone, with a radius of 10', around poles or towers supporting active power distribution lines, employing mechanical, hand operated power equipment, or the use of prescribed herbivory;

ELCT MM-4 – Maintain under-wire and side zone clearance conditions created with the initial treatment;

ELCT MM-5 – Remove all of the species identified in the hazardous determination survey whose root crowns are fully within, or partially on the boundary line of, the subject MU;

ELCT MM-6 – If hand operations are used to remove re-growth reduce the cut material employing a mobile chipper or the "lop and scatter" method and then redistribute the material back out on the treated area such that the resultant fuel bed is no thicker than 6", and;

ELCT MM-7 – Identify, for the purpose of assuring their continued site occupation, the preferred species listed in the hierarchal retention priority portion of the previous table. This action will not be implemented in the circular, bare-soil, zones around the electrical distribution line supporting poles. To increase species diversity, and assure site quality retention, consider supporting the re-occupation of the under-wire zone by species of scrub oak (*Quercus berberidifolia* and/or *Q. dumosa*) and *Arctostaphylos edmundsii*. Support for these species would take the form of 1) retaining them in the initial phase, 2) retaining them if part of the natural regeneration, or 3) artificial planting.