

ADDENDUM TO 2008 HABITAT MANAGEMENT PLAN

LAST UPDATED 4/28/2021

SAN MATEO COUNTY PARKS

***Habitat Management Impact Minimization Measures***

When conducting invasive plant treatments within three feet of any listed butterfly species host plants (i.e. *Castilleja densiflora*, *Castilleja exserta*, *Lupinus spp.*, *Plantago lanceolata*, *Plantago erecta*, *Sedum spathulifolium*, and *Viola pedunculata*) specific precautions must be taken depending on the life stage of the butterfly species that may be inhabiting the host plant. All potential listed species host plants must be treated as if they are hosting a listed species and specific minimization measures must be abided by.

Non-selective herbicide active ingredients with high residual activity such as imazapyr, picloram, aminopyralid, or similar chemicals are prohibited from use within 100 feet of any host plant populations unless granted explicit permission by San Mateo County Parks Natural Resource Management staff (NRM). Certain graminicides with high residual activities may be permitted on a case-by-case basis. All graminicide applications must be approved by NRM

Mowing can occur no closer than one foot of a listed butterfly species host plant. If mowing is to be conducted within three feet but less than one foot of a host plant, the cutting apparatus must be at least three inches above the soil to prevent contact and potential plant or butterfly injury.

All vegetation management work at San Bruno Mountain State and County Park must be approved by NRM staff prior to the start of work. If any harm is done to federally-listed species or their host plants, you must contact NRM staff immediately.

***Mission blue butterfly***

During the months of March through December when Mission blue butterflies are most likely to be located near the base of their host plant, no hand removal, digging, or any below ground disturbance may occur within three feet of a host plant. Hand removal, digging, and below ground disturbance within three feet of a host plant is permitted to occur within the months of January through February, but only if activities do not involve the contact of a root of a host plant as *Lupinus spp.* have fragile root systems and can become easily stressed. Due to the high variability in Mission blue life stage and the high probability to impact Mission blue larvae, **no hand removal, digging, or below ground disturbance within three feet of a host plant is permitted to occur in the Owl and Buckeye Canyon Management Unit and in any areas where *Lupinus formosus* is present unless given written or verbal permission from NRM staff.** Permission to conduct an activities around host plants in these areas may be granted by NRM staff if certain invasive species are unable to be controlled by other methods or at other times of the year. Cut-stump and low volume spot spray herbicide applications are allowed year-round within Mission blue butterfly habitats. However, if herbicide treatments are needed to be done within three feet of a host plant a “shield” (e.g. cardboard or plastic sheeting) must be placed around the *Lupinus spp.* without causing disturbance to the above ground or below ground portions of the plant. This technique must be employed as to prevent any foliar treatments being directly applied to the host plant. If the phenology of the target plant species allows, avoidance of herbicide applications to flowering species within known populations should be rescheduled between the months of July through February.

### *Callippe silverspot butterfly*

During the months of September through February when Callippe silverspot butterflies are likely to be located near the base of their host plant, no hand removal, digging, or any below ground disturbance may occur within three feet of a known host plant. Due to *Viola pedunculata* entering a state of senescence prior to the flight season, Callippe silverspot butterflies lay their eggs in the vicinity of *Viola*. As such it can be very difficult to determine locations of *Viola* and where to best conduct minimization measures to the species when managing invasive species. Utilizing existing host plant maps and conducting surveys of the management area between December and May and flagging locations of host plants is the best approach to minimize harming Callippe silverspot butterflies in their most vulnerable life stages. Flagging should be done the season prior to work being done in the months of June-November when *Viola pedunculata* is likely to not have above ground foliage. Cut-stump and low volume spot spray herbicide applications are allowed year-round within Callippe silverspot habitats. However, if herbicide treatments are needed to be done within three feet of a host plant a “shield” (e.g. cardboard or plastic sheeting) must be placed around the *Viola pedunculata* without causing disturbance to the above ground or below ground portions of the plant. This technique must be employed as to prevent any invasive species foliar treatments being directly applied to the host plant. Herbicide treatments on flowering invasive plants, especially species known to be nectar sources to Callippe silverspot butterflies should be avoided during flight season which is highly variable for the species. If the phenology of the target plant species allows, avoidance of herbicide applications to flowering species within known populations should be rescheduled between the months July through March.

### *San Bruno elfin butterfly*

During the months of June through January when San Bruno elfin butterflies are likely to be located near the base of their host plant, no hand removal, digging, or any below ground disturbance may occur within three feet of a host plant. Hand removal, digging, and below ground disturbance within three feet of a host plant is permitted to occur within the months of February through May. Activity in San Bruno elfin habitat must be done very carefully as the rocky outcrops that *Sedum* inhabit are extremely erosive and can easily dislodge the shallow rooting *Sedum spathulifolium*. Cut-stump and low volume spot spray herbicide applications are allowed year-round within San Bruno elfin butterfly habitats. However, if herbicide treatments are needed to be done within three feet of a host plant a “shield” (e.g. cardboard or plastic sheeting) must be placed around the *Sedum spathulifolium* without causing disturbance to the above ground or below ground portions of the plant. This technique must be employed as to prevent any foliar treatments being directly applied to the host plant. If the phenology of the target plant species allows, avoidance of herbicide applications to flowering species within known populations should be rescheduled between the months of March through January.

### *Bay checkerspot butterfly*

During the months of May through February, when Bay checkerspot butterflies are likely to be located near crevices in the soil or rocks near or travelling to and from their host plants, no hand removal, digging, or any below ground disturbance may occur within three feet of a known host plant. Utilizing existing host plant maps and conducting surveys of the management area when host plant species have visible above ground vegetation and flagging locations of host plants is the best approach to minimize harming Bay checkerspot butterflies in their most vulnerable life stages. NRM staff may grant permission

to conduct management activities within Bay checkerspot host plant populations at these times if it has been deemed that there is not an active Bay checkerspot population in the proposed management area. Such determinations on population presence would be made by NRM staff in consultation with active Bay checkerspot specialists. Cut-stump and low volume spot spray herbicide applications are allowed year-round within bay checkerspot butterfly habitats. However, if herbicide treatments are needed to be done within three feet of a host plant a “shield” (e.g. cardboard or plastic sheeting) must be placed around the *Castilleja spp. or Plantago spp.* without causing disturbance to the above ground or below ground portions of the plant. This technique must be employed as to prevent any foliar treatments being directly applied to the host plant. Herbicide treatments on flowering invasive plants, especially species known to be nectar sources to Bay checkerspot butterflies should be avoided during flight season which is highly variable for the species. If the phenology of the target plant species allows, avoidance of herbicide applications to flowering species within known populations should be rescheduled between the months of June through January.