



# Western Hills Watershed Protection Area Management Plan

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**City of Ukiah**  
300 Seminary Drive  
Ukiah, CA 95482  
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## **Project Location**

The Western Hills Watershed Protection Area (WHWPA) is located in eastern Mendocino County in the foothills rising from the Ukiah Valley in the Northern Coast Mountain Range. The WHWPA currently includes 4 non-contiguous areas totaling approximately 750 acres. The largest section is centered on the ridge climbing to the west of Redwood Avenue and ranges between a tenth of a mile to 1.3 miles wide and spans 2.2 miles from east to west for a total of ~ 600 acres. Additional non-contiguous properties include the City owned portion of Low Gap Park (~105 acres), a parcel at the headwaters of Gibson Creek (~35 acres), and an approximate 13-acre parcel near the corner of Helen Avenue and Doolin Creek Road. Public access trail easements connect the Doolin Creek Property to the largest property on the Redwood Ave Ridge.

For the purposes of this plan the “western hills” extends from highway 253 at the south, to Masonite Road on the North, and from the valley floor to the ridge above Robinson Creek on the south and Orr Creek’s headwaters to the north (Attachment 1). If and when the City obtains additional properties within the described western hills boundary, they will be added to this plan as an amendment.

The WHWPA extends from the valley floor at 760 feet to its highest point at Lookout Peak at 2,726 feet in elevation. Additional properties may be added as opportunities for acquisition arise. A map of the current protected area is available as Attachment 2.

Overall, the WHWPA is steep with slopes ranging from 30-70 percent. The vegetation is overgrown in some locations and wildfire has been suppressed for decades. Looking to the west from the highest ridge, views of Pine Mountain and the headwaters of Robinson Creek can be seen. Looking to the east provides views of Lake Mendocino, the Ukiah Valley, and the mountain tops of Sanhedrin, Hull, Snow, Red, and Konocti Mountains. Two forks of Doolin Creek flow east out of the central and southern parts of the WHWPA. The headwaters of Gibson Creek lie in the northwesternmost corner of the WHWPA and an unnamed creek in the northeastern parcel of the WHWPA flows east toward Hillcrest Avenue.

## **WHWPA Management Plan**

This Management Plan defines the priorities and goals for the WHWPA to ensure continuity in management decision making. Once approved by the Ukiah City Council, the overarching goals of property ownership should rarely if ever change. This plan is further intended to guide staff in day-to-day activities and to provide criteria for the operations, maintenance, and management of the Preserve. In keeping with the primary goals of protecting the WHWPA’s scenic resources and biodiversity, soil and aquatic resources, and ecological functions, most of the management actions should either directly or indirectly implement the natural resources goals.

The Management Plan was designed to protect the conservation values of the WHWPA while providing the opportunity for the future development of recreational, educational, and utility support

opportunities that are compatible with protection of natural resources. This document is intended to provide guidance for balancing multiple goals.

The actions and policies of the Management Plan are organized into three categories with multiple topic areas within each: Resource Preservation, Fire Risk Abatement, and Public Uses and Access.

### ***Purpose and Vision of City of Ukiah Open Space Designated Properties***

The City of Ukiah is committed to protecting the purity and integrity of the Ukiah Valley Aquifer that supplies water to residents and the flora and fauna of the Ukiah Valley, as well as to the Russian River. Protecting the watershed created by the western hills from development was a primary purpose for the City's acquisition of the WHWPA. The City will continue to work with land owners and land trusts to expand the footprint of the WHWPA through acquisitions and conservation easements in the Western Hills as roughly identified in Attachment 1. Additional but secondary reasons, or goals for the acquisition included habitat and watershed protection, utility support, and public access. All plans and activities should balance these secondary goals while assuring the ascendancy of watershed protection.

#### **Vision Statement**

Creating an Open Space Preserve, Balancing Resource Management, Fire Risk Abatement, and Public Engagement

Our vision for the WHWPA is to establish an Open Space Preserve that harmoniously integrates resource management, fire risk abatement, and public access for healthy outdoor recreation. We aspire to protect native plants and wildlife communities, prevent erosion, and maintain water quality. Simultaneously, we aim to engage the public in citizen science, education, and passive recreation while ensuring the protection of historical resources and providing essential infrastructure for the benefit of our community.

## **Resource Preservation**

- Objective 1**     *Establish a Management Culture of Continual Improvement and Increased Resource Knowledge and Understanding.*
- Objective 2**     *Locate WHWPA Facilities to Avoid Rare Plants, Sensitive Natural Communities, and Habitat for Wildlife*
- Objective 3**     *Control Erosion, Protect Water Quality, and Maintain Facilities*
- Objective 4**     *Control Dust during Construction and other Management Activities*
- Objective 5**     *Revegetation after Soil Disturbance*
- Objective 6**     *Best Management Practices for Hazardous Materials Handling and Pollution*
- Objective 7**     *Prevent the Spread of Invasive Species*
- Objective 8**     *Prevent Spread of Sudden Oak Death and Other Plant Pathogens*
- Objective 9**     *Best Management Practices for Use of Pesticides and Herbicides*
- Objective 10**    *Seek Opportunities to Expand the Footprint of Protected Watershed*

## **Fire Risk Abatement**

- Objective 11**    *Reduce Fire Risk to the WHWPA through Fire Abatement and Vegetation Management Activities*
- Objective 12**    *Protect Habitat during Fire Abatement and Vegetation Management Activities*

## **Public Uses and Access**

- Objective 13**    *Provide Safe Public Access for Citizen Science / Education, Volunteer Management, and Recreation*
- Objective 14**    *Monitor for, and Protect if Found, Historic or Archeological Resources*
- Objective 15**    *Provide Water Storage, Power Generation, and Communication Infrastructure*
- Objective 16**    *Provide and Protect Access to Native American Culture Bearers to Nurture Areas for Harvest and Traditional Uses*

## **General Program Objectives, and Resource Conservation Objectives**

The following Project Objectives and Management Tasks are intended to guide the management of the WHWPA and to protect and enhance native habitats and protect sensitive biotic resources (such as riparian zones and creeks, sensitive natural communities<sup>1</sup> and habitat for native wildlife and plant species); protect cultural resources; and potentially expand access to the Protection Area. This plan assures activities on the property will minimize impacts to less than significant levels. A Mitigation Monitoring and Reporting Plan shall be produced and implemented in coordination with facility development.

## **Project Objectives**

### ***Resource Preservation***

#### ***Objective 1      Establish a Management Culture of Continual Improvement and Increased Resource Knowledge and Understanding.***

- Seek opportunities to fund and carry out property surveys to better understand and map the WHWPA.
- To the greatest extent possible begin with high level, broad scale surveys to be used to identify areas of concern, such as areas with rare plants or sensitive natural communities, and then focus subsequent surveys on areas of heightened concern.
- To the greatest extent possible collect and collate studies into a single searchable source.
- Seek opportunities to collaborate with partner agencies to further the knowledge and understanding of the project.
- Seek formal and informal opportunities for staff education.

#### ***Objective 2 – Locate WHWPA Facilities to Avoid Rare Plants, Sensitive natural communities and Habitat for Wildlife***

The City shall use the following design standards to minimize impacts on native vegetation and wildlife communities:

- To the greatest degree possibly site roads, trails, and other park infrastructure out of sensitive habitat areas.
- Maintain buffers between new trails or park infrastructure and drainages.
- Limit removal of existing native vegetation during site development.
- Design trails to avoid mature trees and plan revegetation as needed to maintain native canopy cover and understory species.
- Limit the use of fences. When fencing is essential, use wildlife-friendly fencing.

**Management Task 2A: Avoid Loss of Special-Status species and their Habitats**

The City shall ensure that the following protection objectives for special-status plants and species of local concern and their habitat are implemented during management activities in the WHWPA.

- Maintain a list of special status plants to be updated at least every three years to monitor for newly listed species
- Avoid removal and minimize trimming of Raiche’s Manzanita (*Arctostaphylos stanfordiana* spp. *raichei*) and Redwood Lilly (*Lilium rubescens*) during vegetation management activities. Train crews to recognize this species prior to each vegetation clearing effort, and have a trained supervisor oversee all work in areas where this plant occurs.
- Ensure that Red bellied newts (*Taricha rivularis*) are protected during vegetation management activities. Train crews to recognize this species prior to each vegetation clearing effort, and have a trained supervisor oversee all work in areas where this plant occurs.
- Prior to any park development in areas beyond existing trails and roads, the City shall conduct a botanical survey to document if special-status species are present. Surveys shall be conducted at the appropriate time for plant identification and shall be conducted by a botanist experienced with Mendocino County plant species and natural communities. If special-status plants or their habitat are not identified during initial site surveys, no further mitigation is necessary under this objective.
- If any special-status plant species or sensitive natural communities are found in areas proposed for park development, project plans shall be adjusted to avoid impact to the species. The City shall consult with a qualified botanist to determine appropriate setback distances and protection objectives.
- If special-status plant species or sensitive natural communities cannot be avoided, project-specific protection objectives (e.g., transplant, seed collection, propagation) shall be developed and implemented.
- Any herbicide application to treat non-native plants must ensure that no native plants are affected. A thorough review of invasive plant management best practices should be undertaken and consultation with the California Invasive Plant Council<sup>2</sup> should be considered prior to application.

**Management Task 2B: Protect Birds During Construction and Other Management Activities**

The City shall ensure that the following protection objectives for birds are implemented for construction, ground disturbing, and/or vegetation management activities:

- Work outside of the critical breeding bird period (February 15 through August 31) including construction projects and during ongoing land management (e.g., vegetation trimming and removal, etc.). If activities must occur during this breeding period, work areas shall be surveyed by a qualified biologist prior to commencing. Surveys shall be required for all human-related ground disturbance activities in natural habitats and for vegetation trimming and removal. The surveys shall be conducted within one week prior to initiation of vegetation clearing, tree removal and trimming, or other construction activities. If the biologist finds no active nesting or breeding activity, work can proceed without restrictions. If active raptor or owl nests are identified within 100 feet of the construction area or active nests of other special-status birds (e.g., passerines, woodpeckers, hummingbirds, etc.) are identified within 50 feet of the construction area, a biologist shall determine whether or not construction activities may impact the active nest or disrupt reproductive behavior. If it is determined that construction would not affect an active nest or disrupt breeding behavior, construction can proceed without restrictions. The determination of disruption shall be based on the species' sensitivity to disturbance, which can vary among species; the level of noise or construction disturbance; and the line of sight between the nest and the disturbance. If the biologist determines activities would be detrimental, the nesting area and 250-foot buffer for larger nesting birds (e.g., owls, raptors, herons, egrets) and 50-foot buffer for small nesting songbirds shall be adhered to until the nest has been vacated.
- If the work area is left unattended for more than one week following the initial surveys, additional surveys shall be completed. Ongoing construction monitoring shall occur to ensure no nesting activity is disturbed. If state and/or federally listed birds are found breeding within the area, activities shall be halted, and consultation with the CDFW and USFWS shall occur to determine if any additional protection objectives are needed.
- For fire risk abatement fuel management, nesting bird surveys shall be required for all fire risk abatement vegetation management in late winter through spring. All burn piles shall be burned outside of the bird nesting season (February 15 through August 31). If activities must occur during this period, burn activities shall be reviewed and approved by a qualified biologist before commencing.

***Objective 3 - Control Erosion, Protect Water Quality, and Maintain Facilities***

The City shall maintain roads, trails, and any other approved infrastructure to ensure long term viability and utility of the infrastructure while ensuring erosion control, sediment detention. Site maintenance activities shall occur in accordance with the *Handbook for Forest, Ranch, & Rural Roads* (2015) and the following objectives:

- Protect disturbed areas against erosion. When a road project involves grading or work within or adjacent to a stream, a spill prevention and clean-up plan, Stormwater Pollution Prevention Plan (if disturbance is greater than one acre), or similar document (Erosion Control Plan) shall be prepared and implemented during construction activities to protect water quality. The plan would address polluted



runoff and spill prevention policies, BMPs that are required to be available on site in case of rain or a spill (e.g., straw bales, silt fencing, erosion control blankets, spill response kit), clean-up and reporting procedures, and locations of refueling and minor maintenance areas.

- Dispose of all debris, sediment, rubbish, vegetation, or other construction-related materials in a location approved by the City. No materials, including petroleum products, chemicals, silt, fine soils, or substances deleterious to the function of a watercourse, water quality, or biological resources, would be allowed to pass into, or be placed where it can pass into stream channels.

- Cover stockpiled soils when rain is expected while materials are temporarily stockpiled. Cover stockpiles with plastic that is secured in place to ensure the piles are protected from rain and wind. Silt fencing or wattles would be installed on contour around all stockpile locations.

- Follow Ukiah Valley Trail Group's Trail Maintenance and Design Guidelines for all trail construction and maintenance. (Attachment 3)

- Minimize the amount of soil disturbance and avoid trail alignments in seeps or wet areas.

- Install temporary erosion control measures such as wattles before construction begins and remove once the site has been stabilized with native vegetation or other method.

- Maintain vegetated filter strips at the base of slopes and along trails to allow surface water to slow down and for sediment to be retained.

***Management Task 3A -Maintain roads and facilities to minimize sedimentation and maintenance costs.***

- Perform an annual survey of road conditions after the end of winter rains.
- Note and document maintenance needs that will be required prior to the next rainy season.
- All road work shall be completed in accordance with the Handbook for Forest, Ranch, & Rural Roads (see Reference List).

***Project Objective 4 - Control Dust during Construction and other Management Activities***

The City shall implement the following dust control objectives in areas where soil or vegetation has been disturbed and during construction activities:

- Cover open-bodied trucks when used for transporting materials likely to give rise to airborne dust.
- Use water or chemicals to control dust during construction operations or clearing of land.

- Apply water or suitable chemicals on materials stockpiles and other surfaces that can give rise to airborne dusts.
- Limit vehicle speeds on dirt roads to not more than 12 miles per hour.

***Objective 5 – Revegetation after Soil Disturbance***

The City shall implement the following objectives in areas where soil or vegetation has been disturbed by management activities:

- Implement soil protection objectives, including seeding or planting, promptly with appropriate native species and covering with weed-free straw mulch, and/or installing biodegradable erosion control fabric on slopes.
- Use seed or container stock of local origin for plantings. Seed or propagules for revegetation would be collected from the property itself if a viable source is present. Where this is not possible, propagules shall be from within the Russian River watershed with exceptions being made only after review by a qualified staff member or consultant. Within these geographic parameters, collections shall be made with the goal of capturing natural genetic variation (e.g., collect from a range of elevations and from plants exhibiting varied phenology).
- Include native plant species with high value to local wildlife and/or butterflies and other pollinators in planting palettes as appropriate to the site. Ideally, the area should be surveyed in advance to identify and mimic the species naturally occurring on the site.
- For management actions that have removed native vegetation, evaluate post-construction revegetation success on individual site conditions based generally on the following: 1) establishment of native trees and shrubs at a ratio of 2:1 living after five years (or the ratio mandated by regulatory permits), 2) establishment of herbaceous cover equal to that of adjacent undisturbed ground within three years, and 3) no increase in invasive species populations (or no greater cover of invasive species than that of adjacent undisturbed ground).
- Enhance native butterfly habitat by incorporating larval host plants and nectar plants into restoration palettes as appropriate.
- Include a mixture of plant types (i.e., shrubs, vines, perennials, and herbaceous species as well as trees) in planting palettes to maintain or improve the structural diversity of habitats.
- Use limited organic, weed-free amendments if required to help establish restoration vegetation for soils that have been disturbed and require additional organic matter or nutrients to support native

plants. Organic fertilizers shall only be used above the normal high-water mark of any adjacent waterways. No chemical fertilizers shall be used.

***Objective 6 - Best Management Practices for Hazardous Materials Handling and Pollution Prevention***

The City shall employ Best Management Practices for staging, maintenance, fueling, and spill containment of potentially hazardous materials used on the property. The City shall ensure that all equipment used onsite is inspected for leaks. Vehicles shall be parked and fueled in a designated staging a minimum of 50' away from creeks, drainages, and other water sources including wetlands and seasonal wetlands.

All equipment shall be properly cleaned before entering the Preserve, and spill prevention kits shall be available onsite.

***Objective 7- Prevent the Spread of Invasive Species***

The City shall prevent the spread of invasive weeds and other species to the extent feasible.

*Invasive Plants*

Weed control methods shall include, but would not be limited to:

- Clean plant material and soil from the tires and undercarriage of vehicles and equipment (e.g. mowers) that have traveled through weed-infested areas before they leave those areas.
- Cleaning may be done with a hose if water is available and/or with a scrub brush or stiff broom.
- Train staff and WHWPA volunteers to recognize invasive species and report new infestations promptly to Director of Community Services or designee.
- If resources are available, educate residents immediately adjacent to the WHWPA about invasive species and encourage use of locally native plant species in landscaping..

*Invasive Animals*

- Monitor for the invasion of pigs, feral cats, turkeys and other non-native animals with the assistance of trail cams and quarterly site tours.
- Intervene early and aggressively to exclude invasive animals from the property.
- Develop a plan for trapping and depredation to be available and ready for implementation should invasive animals be discovered.

### **Objective 8 – Prevent Spread of Sudden Oak Death and Other Plant Pathogens**

The City shall be responsible for protecting against the spread of Sudden Oak Death (SOD) and other plant pathogens through implementation of the following requirements:

- Survey the property for, and map locations, where SOD is present.
- Before purchasing any nursery stock for restoration plantings, confirm that the nursery follows current Best Management Practices for preventing the spread of SOD (consult the [California Oak Mortality Task Force](#) for current standards).
- Inspect all plant materials for symptoms of SOD before bringing onto the property.<sup>x</sup>
  
- Train management staff on host species, symptoms, and disease transmission pathways for *Phytophthora ramorum* and other *Phytophthora* species, and on Best Management Practices to prevent the spread of SOD, including:
  - Clean equipment after working in forest and woodland habitats, including chainsaws, boots, and truck tires (spray with a 10% bleach solution or other disinfectant, then rinse).
  - Work in forest and woodlands in the dry season instead of the wet season when spores are being produced and infections are starting. Avoid or minimize pruning oak, tanoak, and bays in wet weather.
  - Leave potentially infected downed trees on site instead of transporting the material to an uninfected area. Where infection is already known to be present, leaving *P. ramorum* infected or killed trees on site has not been shown to increase the risk of infection to adjacent trees. Allow removal from the property only if fire risk is high or for aesthetic or safety. If infected material is removed from the site, dispose of at an approved and permitted facility within the quarantine zone encompassing the 14-county infected quarantine zone.
  
- If necessary to improve safety or reduce fire hazards, infected trees can be cut, branches chipped, and wood split. Do not leave cut wood and chips in an area where they might be transported to an uninfected location.
  
- Educate WHWPA users about objectives to prevent the spread of SOD. Provide signage at major trailheads explaining that SOD occurs on the property, showing typical symptoms and explaining that it can be spread by WHWPA visitors, especially in wet winters, during rainy and windy weather. This may be based on existing public educational materials such as those developed by the California Oak Mortality Task Force. Request that WHWPA visitors:
  - Stay on established trails and respect trail closures.
  - Avoid entering areas that appear to be diseased, especially in wet, muddy conditions. If avoidance is not possible, follow the sanitation practices described below.
  - Avoid transporting SOD on shoes, vehicles, or other transport. After traveling through an infected area, clean up and disinfect. For instance, hikers should remove mud from shoes

using an old screwdriver, stiff brush, and/or towel. Further disinfect shoes by washing with soap and water or spraying with a 10% bleach solution.

***Objective 9 – Best Management Practices for Use of Pesticides and Herbicides***

The City shall minimize the use of pesticides and herbicides to the extent feasible as directed by the City of Ukiah’s Integrated Pest Management Plan. The City shall ensure that any use of pesticides is done according to manufacturers’ recommendations and only as part of the City’s Integrated Pest Management Plan to protect natural resources and conservation values.

Use pesticides with caution to prevent contaminated runoff. A surfactant-free formulation shall be used any time pesticides or herbicides are used within a riparian area. Herbicide application shall be done under the guidance of a certified pest control applicator and according to the manufacturer’s instructions.

***Objective 10 Seek Opportunities to Expand the Footprint of Protected Watershed***

The City shall collaborate with private property owners, land trusts, and other interested parties to expand the total acres of protected watershed within the Western Hills.

***Fire Risk Abatement***

***Objective 11 – Reduce Fire Risk to the WHWPA through Fire Abatement and Vegetation Management Activities***

The City shall collaborate with the Ukiah Valley Fire Protection District, Mendocino County Fire Safe Council, and CalFire to undertake fire reduction and mitigation programs. The following harm reduction programs and efforts shall be pursued:

- Convene regular meetings to ensure collaboration and communication between the partner agencies.
- Develop a priority list of fire mitigation measures to be implemented as funding is available.
- Maintain a log of fuel load management and fire mitigation project completion.
- To achieve the fire hazard reduction goals, the City shall develop a Fire Risk Abatement Plan. The work plan shall include a description of the current and target conditions of the treatment area, map and photos of the treatment area; identify immediate and long-term goals, timeline for implementation, access points, disposal methods, and target species. Fire Risk Abatement Plans may cover a period of 1 to 5 years. The Fire Risk Abatement Plan shall follow the natural resource and fire management recommendations set forth in the WHWPA Management Plan. Once the plans are developed, implementation will proceed as described in the plan.

***Maintenance and Management Task 11A - Reduce Fire Risk on the WHWPA During Maintenance or Patrol Activities***

The City shall implement the following measures to reduce fire risk on the WHWPA during maintenance activities:

- Prohibit vegetation management for ongoing WHWPA maintenance or fire risk abatement during red flag days according to the National Weather Service.
- Require all equipment and vehicles used on the WHWPA to be equipped with spark arrestors or other means of controlling backfiring.
- Limit use of power tools for maintenance or other activities during periods of high and very high fire danger.
- Limit driving onto the Preserve during periods of high and very high fire danger.
- Prohibit parking or driving over flammable material such as grasses and dry brush.
- Maintain clear, unobstructed access along the fire and emergency access road by trimming back encroaching vegetation and promptly responding to and removing any trail obstruction
- Ensure that fire department staff or other entities overseeing fuel load management activities participate in the annual staff meeting and communication protocol.
- All vehicles driven onto the WHWPA shall be equipped with a fire extinguisher, chain saw and associated safety equipment, standard fire-fighting equipment (e.g., shovel, McLeod, fire extinguisher), and a first-aid kit.

***Objective 12 – Protect Habitat during Fire Abatement and Vegetation Management Activities***

The City shall fully maintain habitat quality and complexity during fire abatement and vegetation management activities consistent with protecting public safety. The following habitat protection objectives shall be implemented:

- Develop and maintain a trail and road system to increase emergency access routes and serve as small fire breaks. WHWPA areas along the emergency access routes shall be maintained for emergency vehicle travel while retaining as much vegetation as possible. Established and maintained corridors reduce the chance of emergency road building.

- Roads and trails provide a good access area for shaded fuel breaks and should be considered as priority areas for fuel load management.
- Once established, trails should be evaluated and recommendations for trail clearing widths should be established on a case-by-case basis.
- Prior to vegetation management activities, establish permanent photo points to illustrate before- and after-treatment conditions. Provide typical views of treatment locations for five years after treatment. Use photos to review changes in habitat conditions. Photos shall be taken at the same month each year – for example, in May or June when new leaves are present on plants. If undesirable changes, such as decreased plant density or non-native plant invasion are noted, the City shall review practices and revise as needed to protect natural resources.
- Conduct biological trainings and surveys prior to vegetation management activities.
- Engage personnel familiar with native plant identification and wildlife requirements to guide vegetation management and fuel reduction work on the ground.
- Allow maintenance vehicle access only on the fire and emergency access road and existing trails.
- Maintain habitat complexity, especially along drainages and riparian corridors outside the emergency access corridor. This will require maintaining a balance between providing diverse, multistory forest and woodlands for wildlife utilization and plant community diversity and the need for fire risk abatement and emergency services access.
- If vegetation management is needed along drainages for public safety, ensure that the special ecological values of the habitat are maintained. Work only on sites that are accessible without driving off-road or off-trail, dispose of cut vegetation without blocking drainages, minimize ground disturbance, and maintain duff and native canopy.
- Limit ground disturbance during all vegetation management activities. Where bare ground is exposed as a result of work, promptly treat to prevent erosion, establish native plant species including ground cover, grasses, and shrubs, as appropriate, and limit colonization by invasive plant species; Seeding recommendations should be developed and added to this plan as an Appendix.
- Unless there is a threat to public safety or increased fire risk, retain decaying and dying trees, limbs, snags, and debris piles for wildlife habitat. Snags should be left standing at not less than six per acre. If a downed trees crosses over a trail, cut and move to the side.

- In areas of tree die-off, trees can be felled and limbed. A minimum of six snags per acre should be retained for habitat preservation.
- Engage a professional botanist or vegetation ecologist to review fire hazard reduction practices every five years to ensure that vegetation removal is not negatively affecting native plant community species composition or health, or wildlife communities.

## ***Public Uses and Access***

### ***Objective 13 – Provide Safe Public Access for Citizen Science / Education, Volunteer Management Assistance, and Recreation***

The City shall develop and implement plans to allow public access to the WHWPA. Public access may be permitted to allow for Citizen Science and Education, Volunteer Activities, and / or Recreation. The following public access objectives shall be implemented:

- Develop and implement policies and procedures for public access to pursue research, citizen science, and / or education to be added as an appendix to this document.
- Develop and implement policies and procedures for volunteer assistance in the management of the WHWPA to be added as an appendix to this document.
- Develop and implement policies and procedures for public recreational access to the WHWPA.
- Coordinate with Human Resources to limit liability.
- The use of motor vehicles by the public will be restricted to the greatest degree possible. Motor vehicle use for the sole purpose of recreation shall be prohibited.

### ***Objective 13A – Provide Safe Public Trails for Passive Recreation***

The City of Ukiah shall construct and maintain trails for public access for passive (non-motorized) recreation. The minimal environmental impact of trails is self-mitigated by the trail's environmental education and health benefits. Trails shall not exceed 5 miles per 100 acres to maintain this balance and distribute any impacts of construction and use.

- Trails shall be built to conform with current best practices of sustainable trail design.
- Equal emphasis shall be provided in the development of both mountain biking and hiking trails.
- Hiking only, biking only, and shared use trails should be considered.



- Trails shall not be open to equestrians until adequate parking is secured, and a plan for the additional maintenance necessitated by equestrian use is in place.

***Objective 14 – Monitor for, and Protect if Found, Historic or Archeological Resources***

The City shall remain vigilant for the discovery of previously unknown Historic or Archeological Resources. In pursuit of this objective the City shall;

- Seek funding for and obtain an Archaeological survey of the WHWPA.

***Management Task 14A; Identify and Avoid or Minimize Impacts on Historic Resources***

Should subsurface historic materials be encountered during construction, the City shall ensure that trail maintenance, or resource management activities, the piece of equipment or crew member that encountered the materials shall stop and the find shall be inspected by a qualified historian/archaeologist. Project personnel shall not collect historic materials. If the historian/archaeologist determines that the find qualifies as a unique historic resource for the purposes of CEQA (Guidelines Section 15064.5(c)), all work shall be stopped in the immediate vicinity to allow the archaeologist to evaluate the find and recommend appropriate treatment. Such treatment and resolution shall include either modifying the project to allow the materials to be left in place or undertaking data recovery of the materials in accordance with standard archaeological methods. The preferred treatment shall be protection and preservation. If the resource is determined to qualify as historic under CEQA Guidelines Section 15064.5(a), and the management action would impair the resource, such impacts on the resource shall be avoided. Management activities shall be implemented to avoid impairment of the historic resources. Objectives to protect historic resources may include, for example, temporary protective barriers or construction worker training.

***Management Task 14B: Identify and Avoid or Minimize Impacts on Archaeological Resources***

The City of Ukiah shall ensure that if previously unknown archaeological materials are encountered during construction, trail maintenance, or resource management activities, the piece of equipment or crew member that encountered the materials shall stop, and the find shall be inspected by a qualified archaeologist. Project personnel shall not collect archaeological materials. If the archaeologist determines that the find potentially qualifies as a unique archaeological resource for the purposes of CEQA (Guidelines Section 15064.5(c)), all work shall be stopped in the immediate vicinity to allow the archaeologist to evaluate the find and recommend appropriate treatment. Such treatment and resolution shall include either project modification to allow the materials to be left in place or undertaking data recovery of the materials in accordance with standard archaeological methods. The preferred treatment shall be protection and preservation.

***Management Task 14C: Procedures for Encountering Human Remains***

If human remains are encountered, project personnel shall stop all work in the immediate vicinity. The Mendocino County Coroner and a qualified archaeologist shall be notified immediately so that an evaluation can be performed. If the coroner determines the remains are Native American and prehistoric, Native American Heritage Commission (NAHC) shall be contacted so that a “Most Likely Descendant” can be designated, the appropriate Tribal representative can be contacted, and further recommendations regarding treatment of the remains can be provided. The City of Ukiah shall ensure that if human remains or funerary objects are discovered during soil-disturbing activities, the City shall ensure that all work stops in the vicinity and that the Mendocino County Coroner is notified. A qualified archaeologist shall evaluate the remains. If human remains are of Native American origin, the Coroner shall notify the Native American Heritage Commission (NAHC) within 24 hours of identification, pursuant to California Public Resources Code Section 5097.98. NAHC would appoint a Most Likely Descendant (MLD). A qualified archaeologist, the City of Ukiah, and the MLD shall make all reasonable efforts to develop an agreement for the treatment, with appropriate dignity, of any human remains and associated or unassociated funerary objects (CEQA Guidelines Section 15064.5[d]). The agreement shall take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, and final disposition of the human remains and associated or unassociated funerary objects. The PRC allows 48 hours to reach agreement on these matters. If the MLD and the other parties cannot not agree on the reburial method, the City shall follow California Public Resources Code Section 5097.98(b), which states that “the landowner or his or her authorized representative shall reinter the human remains and items associated with Native American burials with appropriate dignity on the property in a location not subject to further subsurface disturbance.”

***Management Task 14D: Avoid or Document Paleontological Resources***

The City of Ukiah shall ensure that if a paleontological resource is discovered during construction, trail maintenance, or resource management activities, all ground-disturbing activities within 50 feet of the find shall be temporarily halted. Activities may be diverted to areas beyond 50 feet from the discovery. The City shall notify a qualified paleontologist who will document the discovery, evaluate the potential resource and assess the nature and significance of the find. Based on scientific value or uniqueness, the paleontologist may record the find and allow work to continue or recommend salvage and recovery of the material. The paleontologist shall make recommendations for any necessary treatment that is consistent with currently accepted scientific practices.

***Management Task 14E; Consult with Native American Tribes if Previously Undiscovered Artifacts are Discovered***

In the event any Native American archaeological artifacts are discovered during implementation of management activities, the City shall contact and consult with local tribes who have a traditional and cultural affiliation with the Project area. If the tribe(s) considers the resource to be a tribal resource, the City shall consult with the tribe to develop appropriate mitigation objectives in accordance with Public Resources Code 21080.3.2.

***Objective 15 Provide Water Storage, Power Generation, and Communication Infrastructure***

The City of Ukiah's Water and Utilities Departments contributed to funding for the WHWPA acquisition with the understanding that water storage and power generation were potential uses of the property. While watershed protection is the primary goal of the property, the placement of water tanks and limited power generation infrastructure should be considered when feasible with mitigations for the use as determined by CEQA reviews such as Mitigated Negative Declaration or Environmental Impact Report.

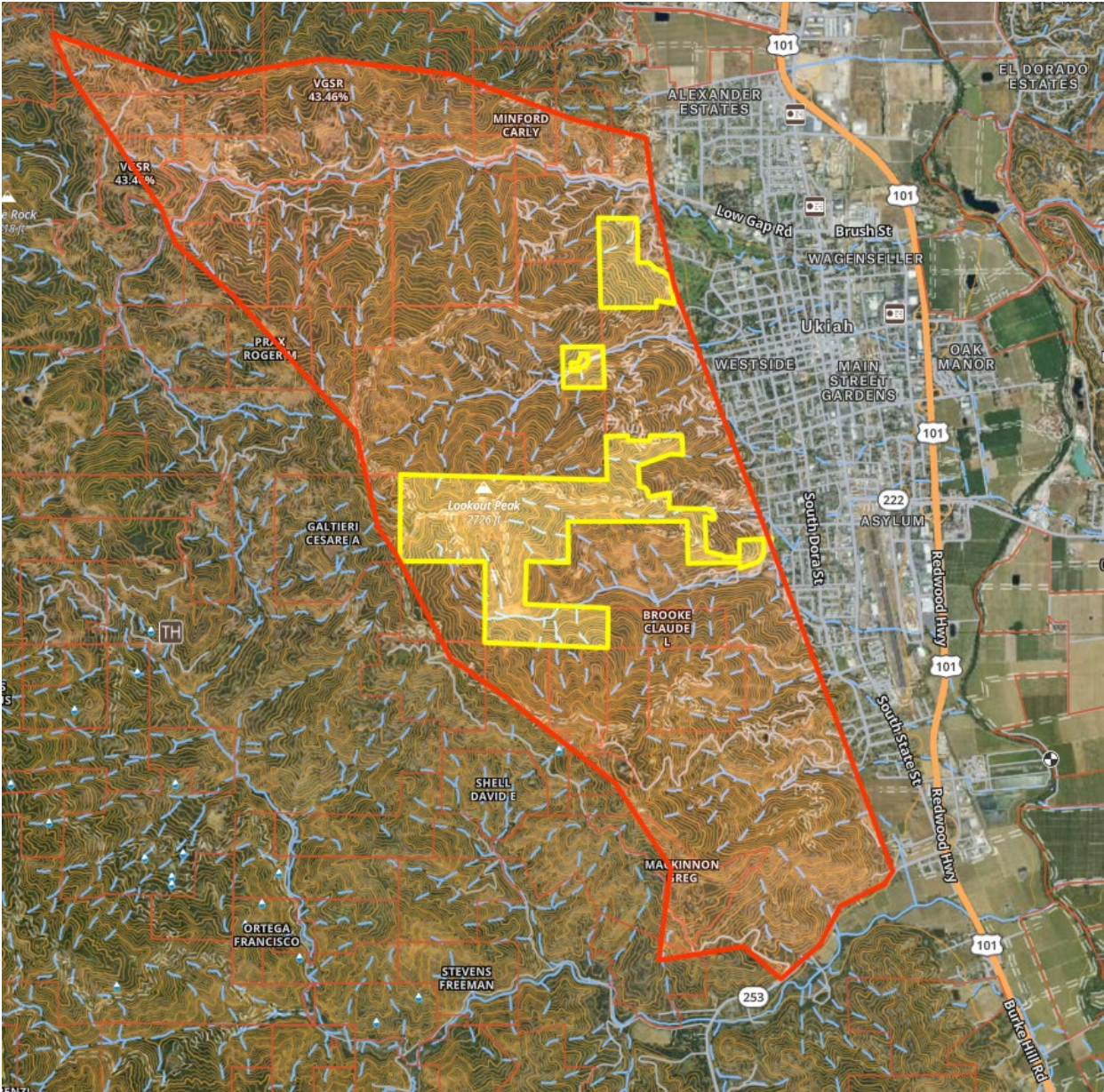
***Objective 16 Provide and Protect Access to Native American Culture Bearers to Nurture Areas for Harvest and Traditional Uses***

The City shall develop and implement plans and policies to allow safe and secure access to Native American culture bearers who wish to nurture areas for harvest, harvest for personal and family use, and for the pursuit of other traditional uses.

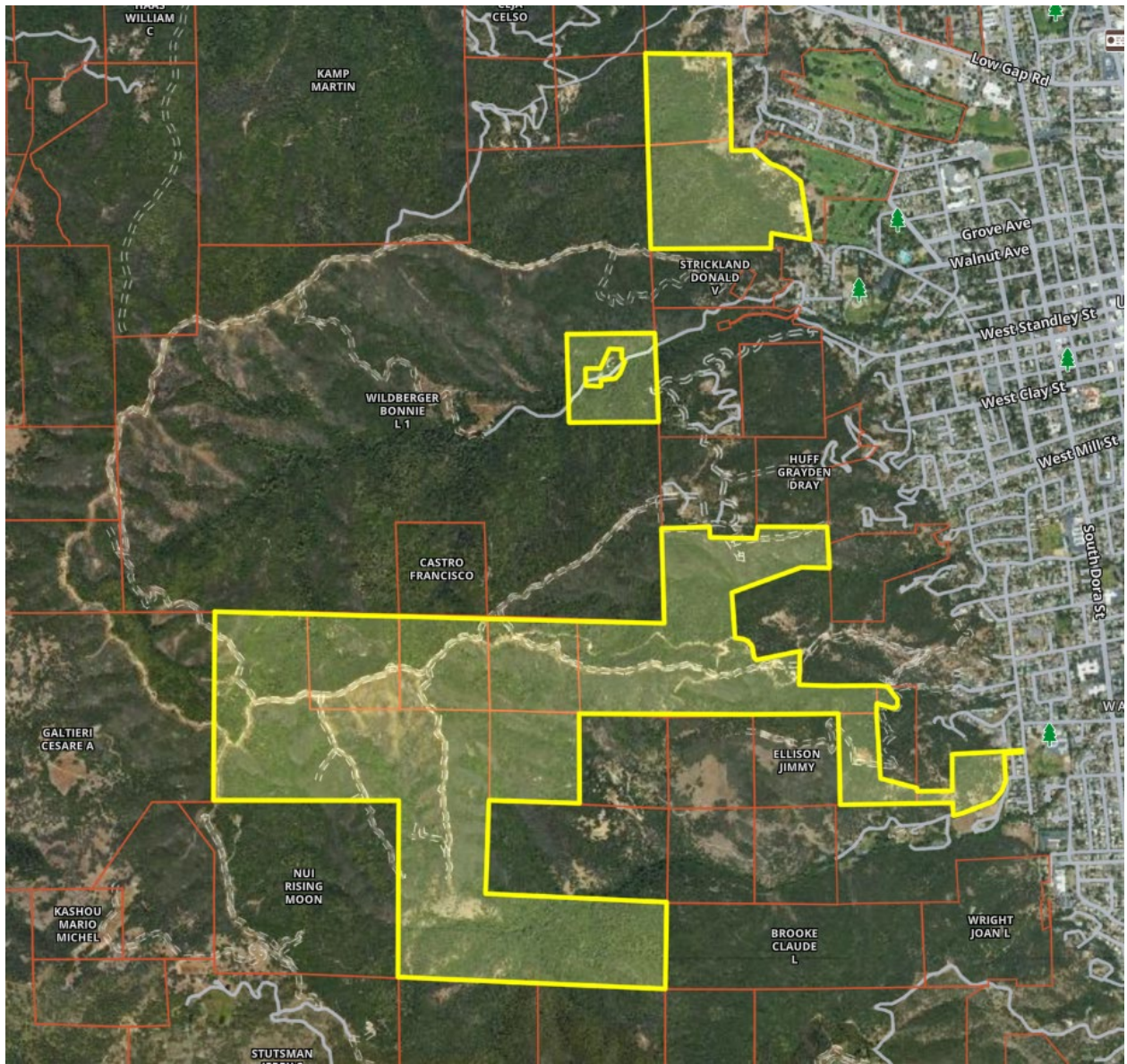
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2. <https://www.cal-ipc.org/resources/library/publications/>
3. Weaver W., Weppner E., Hagens, D; *Handbook for Forest, Ranch, & Rural Roads* (2015). Mendocino County Resource Conservation District
4. Ukiah Valley Trail Group's Trail Maintenance and Design Guidelines (2015).
5. Bride, Anna; Davis, Neil *Western Hills Watershed Protection Area Baseline Documentation Report* (2023). City of Ukiah
6. Storer, A., et.al., *Diagnosis and Monitoring of Sudden Oak Death*. (2002) University of CA Pest Alert #6
7. Sawyer, J. et. al., *A Manual of California Vegetation*, 2<sup>nd</sup> Ed. (2009)

Attachment 1 – Western Hills of Ukiah



Attachment 2 – Western Hills Watershed Protection Area Map (1/9/2024)



## Attachment 3

### Ukiah Valley Trail Group Philosophy and Design and Maintenance Standards

**Trail Philosophy:** Central to the Ukiah Valley Trail Group's approach to trails is the recognition that our world is one of finite resources and, since demand for these resources is increasing steadily; insightful management is of utmost concern. The Inland Mendocino County Trail system must be designed to utilize resources in ways that benefit all non-motorized users. This entails providing adequate accommodation and accessibility, rather than focusing on individual user groups. The increased sharing of resources sometimes creates friction between the diverse user groups vying for more trail space. This Trail Plan acknowledges that a certain amount of friction is inevitable and therefore focuses on planned communication to minimize the differences and optimize the benefits derived from these precious resources.

Plans for optimal use of trail resources must be in concert with the objective of natural and cultural resource protection. Any decisions on resource use affect not only local residents and visitors, but our natural and cultural habitat as well. If we make responsible decisions concerning preservation of our resources, we will succeed in our custodial duties to the environment while at the same time providing enjoyment for current and future generations. Through well designed, constructed and maintained trails we will accomplish optimal public access while accommodating resource conservation.

Providing the public with increased access to trail and greenways is not enough; we must also strive to promote the abundant benefits that derive from them. Trail benefits include recreation, transportation, energy conservation, environment and habitat protection, fire suppression, improved physical and mental health, and local economic benefits. Informing the public of the significant benefits expands public awareness of the advantages that trails and greenways offer to the individual and the community. Gaining public support thereby encourages policy makers to support trails and greenways and to increase funding to better manage the trail system.

Improving relationships and interaction between government entities and the private sector will be necessary for the effective development of a well planned and managed trail and green-way system. Open communication between all levels of government and interested parties enhances the finding of common objectives by making individuals and groups part of the solution. Linking communities and trail advocates in trail planning minimizes land use conflicts and allows for optimal resource use. Joint planning emphasizes the development of interconnected trails in natural settings and a united effort creates a stronger voice for advancing trail proposals.

**Goals:** The goals for the Lake Mendocino Trail Plan should include 1) generalized goals for the development of a quality local trail system, 2) specific goals for the Lake Mendocino trail system, 3) goals for how the Lake Mendocino trail system will link, and be a part of, the greater Ukiah Valley Trail System and 4) goals for using trail improvements and quiet-use recreation ethics as a tool for ecosystem

restoration and preservation.

The general goals that define a quality trail system include:

### **1-Adequate mileage**

- Moderate strong bike or horse riders ride 15-20 miles in a day
- Endurance riders will ride 100 miles in a day
- There are approximately 24 miles of trail in the Ukiah Valley

Lake Mendocino currently has approximately 16 miles of trail and is near to maximum capacity. Small increases are necessary but can be mitigated with road closures and road to trail conversions. Employing a “stacked loop” design can maximize the trail experience within the capacity.

### **2- Connectivity**

- A single recreation area is unlikely to meet all the community’s needs.
- Trails that connect the various areas are therefore necessary.
- Connectivity allows trails to fulfill a transportation role.
- Lake Mendocino Trails do not currently connect with any other trail systems.
- Priority should be given to approving trails that link Lake Mendocino to outlying areas.

### **3- Variety of environments**

- An example of each of the area’s micro-ecosystems should be included, such as Riparian, oak woodland, mixed hardwoods etc.
- Trails should include sunny areas, which will be more desirable in the winter, and shady areas for summer use.

### **4- Variety of trail experiences**

- Different trail users appreciate different trail characteristics.
- Equestrians generally prefer wider trails.
- Mountain bikers generally prefer lots of rolling ups and downs with lots of turns.
- Runners tend to prefer gentle grades.
- Advanced users desire more “technical” or challenging trail - narrower with a rougher, more uneven tread.

A quality trail system will provide a variety of trail experiences. A small trail system should focus



first on trails that meet the needs of the majority of users.

### **5- Easy Access/Options**

- Users need to be able to get from home to trail quickly and start their experience.
- The first trail from the trailhead should be an easy trail, wide and smooth - suitable for all users.
- As users delve further into the system, the trails should increase in difficulty.
- “Stacked loops” of trails allow users to return by a different route while providing a variety of options.

### **6- Signage / Mapping**

- All trails should be named and signed.
- All trailheads should have an information kiosk.
- Maps should be readily available for all trails.

### **7- Sustainability & Maintenance**

- Trails need to be well maintained.
- Trails designed to sustainable standards require much less maintenance.

## **UVTG Design and Maintenance Standards**

### **Definitions**

Reroute – a trail maintenance project that starts and ends on a single existing trail and abandons the trail between those points will be termed a reroute.

Trail - A trail is specifically designed, designated, developed, and maintained as a recreational corridor for the exclusive use of non-motorized vehicles. It is typically not more than 4 feet wide, unpaved and generally requires users to travel single file.

Use Trail - A Use Trail is a trail that has been created without a planning process and or approval by the

repeated historic exploration of users.

Multi-Use Trail - A multi use trail is a trail that is open to non-motorized users including hikers, runners, equestrians, and bicyclists. All trails in the Lake Mendocino property will be multi use unless compelling reasons are presented to necessitate partial closure. (Such as the Shakota trail which is currently closed to equestrians.)

Road - Any transportation corridor designed for motor vehicle use and open to motor vehicle use. Although roads may be necessary for maintenance, further road building should be avoided and road closures should be pursued where possible. A road may be used for recreation but is not a trail.

Fire Break -Although trails act as small firebreaks and have been known to stop fires and can be used as locations to start backfires, a firebreak is not a trail.

Trail Maintenance and Repair<sup>2</sup> - Maintenance and repair of existing trail is performed to return the trail or trail segment to the standards or conditions to which it was originally designed and built, or to improve it to comply with more current design standards to achieve sustainability. The act of maintenance and repair includes but is not limited to:

- Removal of debris and vegetation from the trail corridor, clearing encroaching brush and grasses, removing rock slides, etc.- Maintenance of trail tread such as filling ruts and entrenchments; reshaping trail bed, repairing trail surface and washouts; installing rip rap; constructing retaining wall or cribbing
- Erosion control and drainage, replacing or installing necessary drainage structures, water bars, culverts; realigning sections of trail to deter erosion or avoid boggy/marshy areas.
- Repair or replacement of existing trail structures.
- Upgrades and short reroutes to improve sustainability and decrease maintenance needs.

## **Trail tread and slope characteristics**

### **1. Trail Width:**

Trail beds shall be built and maintained with a goal of being three feet wide. Topographical, vegetation, or resource constraints may require sections that are less than three feet.

Rationale: Allows users to pass by each other safely.

### **2. Rolling “Contour” Trails:**

Trails shall be built with the contour of the topography (plus or minus 10%) utilizing side-slopes and avoiding flat areas as much as feasible.

Rationale: Building trail along fall lines or in flat areas creates erosion. “Contour” trails allow water to sheet off the trail and flow downhill.

Keeping trails on hillsides keeps them out of flatter, wetter areas. Trails built in wet areas are not sustainable. Users tend to walk along edge of trails, creating trail widening. Wet areas are more prone to soil compaction and displacement.

“Contour trails create changing view sheds that add to the enjoyment of the trail.

### 3. Average trail grade less than or equal to 10%:

The average slope of the trail will be less than or equal to 10%, some slopes will be greater and some less. Side slope, soil type and natural obstacles will determine the grades for each individual section of trail. Sections that are over 10% should be short and followed by a relatively flat section or grade reversal.

Rationale: Most soil types can withstand up to 10% grades.

Minimizes user-caused erosion.

Allows for possible reroutes at a steeper grade if there is a future problem such as a slide.

Accommodates undulations/grade reversals.

Feels comfortable to most trail users.

Grade reversals after steep sections allow the user to recover from the increased effort.

### 4. Sustainable trail alignment - Trail grade does not exceed “half-rule”:

The grade of the trail should not be greater than half the grade of the sideslope that the trail traverses.

Rationale: Prevents erosion caused by water flowing down the trail rather than flowing down the hillside.

Guides individual trail planning segments to fit the topography.

### 5. Maximum trail grades should be less than 15%:

Rationale: Although this rule might occasionally need to be broken, at least for short segments of trail, our observation is that most of the existing trails at Lake Mendocino are sustainable up to a grade of 15%. Higher grades, especially in areas exposed to weather, have suffered more erosion and damage from users.

### 6. Incorporation of grade reversals:

Trails should incorporate frequent grade reversals every 10 to 50 feet, depending on soil type and topography.

Rationale: Grade reversals provide areas for water to drain off of trails. As trails age, the shape of the trail bed tends to become concave, leading to the trapping of water. Grade reversals divide the trail into short, individual watersheds.

#### 7. Build in outslope:

Outer edges of trails shall be built and maintained so that they create an approximate 3-5% slope from the inner edge of the trail.

Rationale: Allows water to sheet off of trail, decreasing erosion.

#### 8. Build in backslope:

Depending on soil stability and composition, the area uphill of the trail shall be sloped extending upward from the trail.

Rationale: Prevents a waterfall effect from water coming down the hill and dropping onto the trail tread.

#### 9. Water Crossings:

Water crossings should be avoided when possible. Trails shall be designed, built, and maintained to minimize sedimentation in streams. Bridges shall be the ideal with puncheons, culverts or “hardening” being considered should resource limitations, infrequent water flow, or low use combine to make a bridge impractical. Prioritization of water crossings should be considered with high use crossings receiving first resources.

Rationale: Minimize impacts to the stream channel and environment.

Create a safe and sustainable passages for trail users.

Work within limits of resource availability and predicted impacts.

## Pruning

Pruning vegetation is an essential and regular part of trail maintenance, especially in brushy chaparral areas. Multi-use trails should have 10' vertical and 8' horizontal clearance (though there will be exceptions for the sake of protecting a tree or skirting around a large boulder).

Too often, trail pruning is accomplished in the most expeditious manner possible -- a branch intrudes within the walking/riding space of the trail and is quickly lopped-off so that it doesn't intrude and the debris is indiscriminantly tossed aside. However, our goal in trail maintenance is to **maintain a trail in as natural appearance as possible**. A quick pruning job deals only with

the function of trail maintenance, not the aesthetics.

There are 6 elements of acceptable pruning in the State Park System. Each of these elements makes pruning a more tedious maintenance task, but results with a trail that is compatible with the natural environment.

**Do not toss debris!** Branches that are randomly discarded usually end up hanging in adjacent shrubs or trees. These dead branches are both unsightly and create a fire hazard.

**Place debris out of view.** This element requires the extra effort of dragging branches under and around shrubs.

**Place the butt (cut) end away from the trail.** This will help disguise the debris.

**Each cut branch should be touching the ground to promote decomposition.** This means that brush piles are not appropriate.

**Pruning should be done sensitively so that the trail appears natural** and not as if a chain saw just blasted through. Trail users should not be aware that **any** maintenance work has recently been done.

**Prune to the collar of any branch stem** for the health of the shrub and a more natural looking result. At the base of any branch there is a wide section that contains a plant's natural healing agents. Any pruning performed away from this collar will expose the plant to a greater risk of infection. A cut at the collar will naturally heal. For large branches over 2" in diameter, cut from the bottom, then cut down from the top. This prevents tearing of the bark, reducing infection.

#### 10. References:

The following references will be used as resources to establish best practices and resolve questions not covered in the above. Additional references will be added upon availability.

Weber, Peter(Ed). 2007 *Managing Mountain Biking: IMBA's Guide to Providing Great Riding* International Mountain Biking Association. Boulder CO ISBN978-9755023-1-X

Birkby, Robert. 2005 *Lightly on the Land: The SCA Trail Building and Maintenance Manual. 2<sup>nd</sup> edition.* The Mountaineers Books. Seattle WA ISBN

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Demrow, Carl & Salisbury, David 1998. *The Complete Guide to Trail Building and Maintenance, 3<sup>rd</sup> Edition*.  
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