

**GAINES GREENBELT PRESERVE
LAND MANAGEMENT PLAN**

CITY OF SUNSET VALLEY

BCCP Managing Partner

December 2013

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BACKGROUND

The City of Sunset Valley owns and manages a network of parks and preserves in the municipal limits, one of which is the Gaines Greenbelt adjacent to the City of Austin's Barton Creek Greenbelt. The Gaines Greenbelt provides habitat for the federally endangered Golden-Cheeked Warbler (*Setophaga chrysoparia*, GCWA) and is used as a hike and bike trail. Sunset Valley has signed a Managing Partner Agreement with the Balcones Canyonlands Conservation Plan (BCCP), an Habitat Conservation Plan authorized under an Endangered Species Act Section 10(a)(1)(B) incidental take permit TE 788841-2 (the Permit).

The Permit conditions and associated documents (Habitat Conservation Plan, Environmental Impact Statement, Land Management Plan standards and implementing agreements) specify conditions and mitigation requirements, including the establishment of the Balcones Canyonlands Preserve (BCP) system. The Sunset Valley – BCCP Managing Partner Agreement adds the Sunset Valley Gaines Greenbelt to the BCP Barton Creek Macrosite and aligns Sunset Valley's requirements for managing the Gaines Greenbelt with the Permit, associated documents, and this site-specific Land Management Plan (Gaines LMP).

Sunset Valley retains the site and its management for endangered species and water quality protection; certain recreational, open space and scenic values; recognition and partner status in the regional BCCP. The agreement and prescriptive management of the Gaines Greenbelt contribute additional Golden-Cheeked Warbler conservation acreage to the BCP as required by the Permit. The Gaines LMP fits the criteria established by the BCCP for land management plans and will guide the conservation, management, and allowable activities on this site in perpetuity.

LOCATION AND LAND USE

The Gaines Greenbelt parcel is approximately 21.9 acres located in Travis County, Texas, at the northern edge of the City of Sunset Valley. The parcel's south side borders the back lot lines of residential sites, an hotel, and Texas Department of Transportation stormwater pollution prevention facility which lie along US Highway 71/State Highway 290 West; east of the tract lies larger-lot residential area; and, the remaining parcel borders the City of Austin's Barton Creek Greenbelt trail system (Figure 1).

Restricted by recorded deed in the Travis County Appraisal District (TCAD, Doc.No.9105787), the Gaines Greenbelt was conveyed to the City of Sunset Valley in two parcels (TCAD ID 509013 and 509123) on June 26, 1991 exclusively for use by the public for parks, recreational, greenbelt and/or preserve. The property must also retain the name Gaines Greenbelt. For all purposes in this LMP, the associated Managing Partner Agreement, and the Preserve system, the two tracts are considered one combined management unit as surveyed and represented in Figure 1.

Currently, the Gaines Greenbelt is used as part of a network of official and social recreational hike and bike trails. The BCCP Coordinating Committee has approved a Trail Master Plan Proposal that provides for one single-path new trail that is part of the Violet Crown Trail along Gaines Creek through the Gaines Greenbelt tract. There is not a direct access point to the Gaines Greenbelt; access is through trails that

cross City of Austin or privately-owned property. Currently, this trail runs approximately congruent with Gaines Creek – a ravine, with steep cliffs and inclines along the eastern border. An existing network of social trails will be closed in the course of Violet Crown Trail and Gaines LMP implementation.

The Gaines Greenbelt Trail segment of the Violet Crown Trail is open to the public for foot and bicycle traffic during daylight hours on marked trails. Dogs must be on-leash. From time to time, access to the tract or portions of the tract may be limited for recovery from various natural and anthropogenic disturbances, protection of endangered species, and maintenance and management activities. Public notice is provided when the Gaines Greenbelt is closed.

REGULATORY ENVIRONMENT

Trail development, maintenance, operation and conservation activities require compliance with the federal Endangered Species Act of 1973 (as amended) due to the presence of habitat for the GCWA and the need to avoid adverse impacts to water quality for two federally listed salamanders – Barton Springs Salamander and Austin Blind Salamander – which rely on the Barton Creek watershed and springs dependent on the Edwards Aquifer. Impacts to natural resources must also be compliant with relevant sections of the Texas Parks and Wildlife Department Code and amendments and rules adopted by the Parks and Wildlife Commission. Legal issues for this site also include parcel recorded deed restrictions.

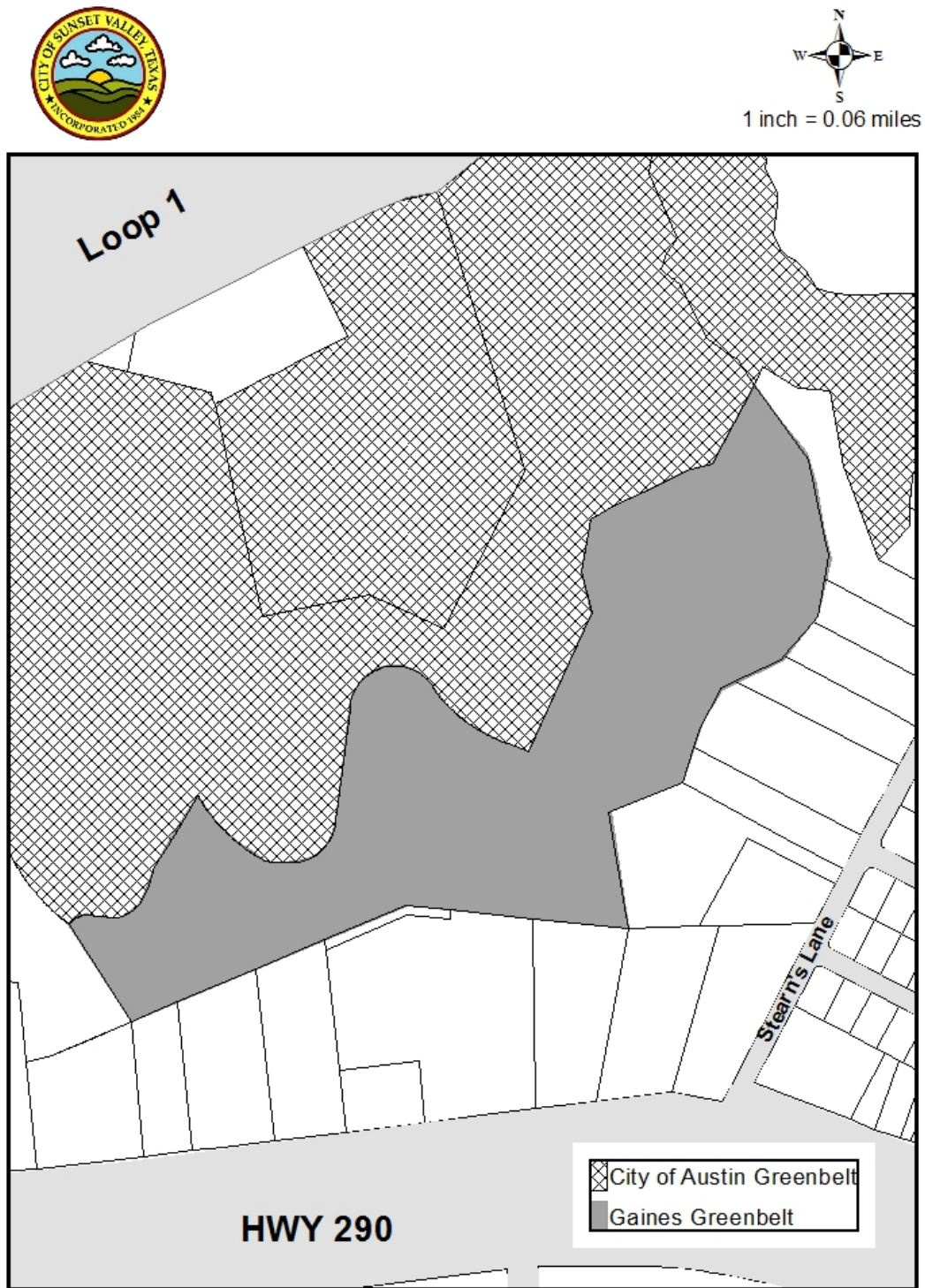


Figure 1. Location Map of the Gaines Greenbelt

NATURAL ENVIRONMENT

Ecoregion/Ecosystem

The Gaines Greenbelt lies within the Balcones Canyonlands subregion of the Edwards Plateau ecoregion (Griffith et. al. 2007, North American Commission for Environmental Cooperation 2011) and the Colorado River – Edwards Plateau Ecological Drainage Unit (AFWA 2006, Esselman et. al. 2010).

Geology

Elevation on the site varies from 570 to 660 feet along the plateau. The plateau is capped by Georgetown Limestone and extends toward Ben White Boulevard (US Highway 71). This cap was mapped by Garner and Young (1976) and is nearly unrecognizable due to construction within the area. The most common visible geological formation is the exposed Edwards Limestone along the ravines and hillsides, forming crevice, cliff and overhang habitats used by various wildlife species. Between 50-80 percent of the area has broken limestone rock outcrops.

Soils

Gaines Greenbelt soils are Tarrant and Tarrant rock outcrop (USDA 2013), commonly found on steep slopes along rivers and creeks in this area. The soil is a gray-brown stony clay or clay loam that can be approximately seven inches thick overlaying limestone.

Water Resources

Within the Barton Springs Edwards Aquifer Recharge Zone, the Gaines Greenbelt preserve is intersected several times by the meanders of Gaines Creek. Gaines Creek is an ephemeral “wet weather” tributary to Barton Creek within the Barton Creek Watershed.

Karst and Subsurface Features

A karst feature presence/absence survey has not been conducted in this area.

Vegetation

The plant community of the Gaines Greenbelt is an Oak – Ashe Juniper Woodland (*Quercus* spp. and *Juniperus ashei*). Although mostly wooded, the area supports a few small, open grasslands. The dominant woody species on this tract is Ashe Juniper. Other common trees are Live Oak (*Quercus fusiformis*), Texas Oak (*Quercus texana*), Cedar Elm (*Ulmus crassifolia*), Shin Oak (*Quercus durandii* var. *breviloba*), Texas Ash (*Fraxinus texensis*), Sugar Hackberry (*Celtis laevigata*), and Escarpment Black Cherry (*Prunus serotina*). Shrubs and small trees of the understory include Texas Persimmon (*Diospyros texana*), Carolina Buckthorn (*Rhamnus caroliniana*), and Red Buckeye (*Aesculus pavia*). The slopes and cliffs provide habitat for various ferns including Southern Shield Fern (*Thelypteris kunthii*), Purple Cliffbrake (*Pallaea atropurpurea*), Alabama Lipfern (*Cheilanthes alabamensis*), and Blackstem (*Asplenium resiliens*). Some interesting plants found within the Gaines Greenbelt are Fiddleleaf Tobacco (*Nicotiana repanda*), Brazos Rockcress (*Arabis petiolaris*), Mormon Tea (*Euphorbia antisyphilitica*), and Twisted-leaf Yucca (*Yucca rupicola*). No rare or federally listed plant surveys have been conducted on this site.

Wildlife

The Gaines Greenbelt provides habitat for the endangered GCWA which nest throughout the site's canyons and ravines. Because this species relies on native mature oak-juniper woodlands, with a diverse closed canopy and understory, management for this species is primarily focused on limiting human disturbance, protecting the area from wildfire, and tackling invasive species. Surveys for this species have been conducted on the site in 2009, 2010, 2011, and 2012 to establish a presence/absence baseline.

Other field-observed wildlife within the Gaines Greenbelt include white-tailed deer (*Odocoileus virginianus*), coyote (*Canis latrans*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), Virginia opossum (*Didelphis virginiana*), eastern cottontail rabbit (*Sylvilagus floridanus*), eastern fox squirrel (*Sciurus niger*), rock squirrel (*Spermophilus variegatus*) and rodent species. Texas Rat Snake (*Elaphe obsoleta lindheimeri*), Prairie Kingsnake (*Lampropeltis calligaster calligaster*), Green Anole (*Anolis carolinensis*), Reticulated Gecko (*Coleonyx reticulatus*), and Gulf Coast toad (*Incilius valliceps*) are the reptile and amphibian species identified to date.

MANAGEMENT

Goals

Management goals reflect compliance with the BCCP Permit and associated documents, including the Land Management Plan standards of practice. Primarily, the Gaines Greenbelt will be managed to:

- benefit GCWA occupation and productivity during the breeding season,
- preserve and recover native diverse oak-juniper woodland,
- promote and contribute to a sustainable and diverse native ecosystem, and
- contribute high water quality to Gaines Creek and subsequently Barton Creek.

Secondarily, the site will be managed for existing recreational and educational values insofar as those do not conflict with the natural resources values as required by the BCCP.

Management activities are outlined below to comply with the goals stated above. These goals typically will not change unless the BCCP Permit itself is amended in some way. Activities may be changed according to the state of conservation practice, new supporting natural resources' information or a BCCP Coordinating Committee-approved change to the BCCP Land Management Plans.

Natural Resource Surveys and Monitoring

Surveys and monitoring are intended to provide better information for conservation and management decisions. Findings will be included in the Gaines Greenbelt section of the BCCP Annual Report.

Golden Cheeked Warbler

To track any change(s) to the baseline condition of GCWA territories partially or wholly occupying the tract, a federally permitted biologist will conduct territory-level mapping every two years using the same

protocols that other BCP land managers are using. Other local organizations may be involved in the survey and monitoring effort, as long as they are or are with a federally permitted biologist.

Vegetation

See also *Oak Wilt*, *Invasive Species*, *Restoration* and *Wildfire* sections.

Permanent photo points will be established and documented for annual use to monitor visitor impacts, changes in plant communities, help map invasive species issues, determine effects of management and restoration, and revise management approach as needed to meet goals. No specified number of points is required. Points should be positioned to be repeated annually and sufficient to represent trail management and restoration needs (e.g. places where trails impact habitat quality and/or highest erosion potential over time), rare species' habitat condition, and boundary issues. Each point will be documented in the following framework and the collection will be reported as baseline and updates in the Annual Report:

Point 1. Northwest Pasture	
Start Location	GPS Coordinates, (e.g. 30° 16' 13" N, 97° 44' 43" W)
Start Landmark	brief description of starting point, if a landmark exists, e.g. northwest fence corner, something that doesn't move over time
Shoot Direction	Compass directions from start location – aim for general direction (e.g. SSE 162°)
View	describe briefly what the photographer would see in the screen if properly aligned, one line or less (e.g. shed in lower lefthand view of photo)

Oak Wilt

Sunset Valley will coordinate with the City of Austin for oak wilt surveys (City of Austin flies every two years for monitoring oak wilt centers). Oak wilt areas will be mapped. If detected, treatment and/or containment options will be discussed with BCCP land managing partners. Treatment plans which include mechanical removal or trimming will also include debris removal from the preserve as a wildfire prevention measure.

Karst

A baseline presence/absence survey of recharge features, sinkholes, and caves will be conducted within the first two years of this Plan, working with City of Austin and Travis County karst specialists and geologists. Surveys will concentrate on areas with the highest potential for adverse disturbances (e.g. near the approved trail, social trail closures, restoration or invasive species treatment areas).

If features potentially containing karst invertebrates are detected during the presence/absence survey, a karst invertebrate survey by federally permitted biologist(s) will be conducted to document species and amend this plan for protective measures, if needed. Annual cave cricket exit count surveys will be conducted for karst features where rare invertebrates are detected.

If significant features are detected, surface and subsurface hydrogeological areas will be delineated/mapped, working with County and City karst and hydrogeology specialists.

Water Quality Monitoring

Annually, water quality monitors will meet with agencies collecting water quality data to discuss monitoring results and standards of practice.

During trail patrols, maintenance activities and other survey and monitoring activities, trail erosion, stormwater pollution prevention facility malfunction, or other potential water quality-degrading pollutants will be reported to appropriate authorities, addressed and monitored for follow-through.

See also *Trail Maintenance and Management*.

Invasive Species' Control

Non-native vegetation focal areas will be mapped within the first two years of this LMP. A treatment plan will be developed and included in this document, based on highest priority, highest risk, standards of practice that protect/not adversely impact the surrounding environment; means and methods will be included in the treatment plan (e.g. mechanical or chemical means, depending on the site type within the parcel). Treatment plans which include mechanical removal or trimming will also include debris removal from the preserve as a wildfire prevention measure.

Red imported fire ants will be controlled using BCCP accepted practices for preserve areas with karst potential as needed, using the Tier II Karst Management Plan as a guide. No chemical means will be used within surface drainage zones of karst features.

Patrol and outreach events will make an effort to document colonies of Tawny Crazy Ant (*Nylanderia fulva*) and Sunset Valley will coordinate with BCP Land Managers to determine if a course of action is needed and how best to address the issue.

Trail Maintenance and Management

Access, Fencing and Signage

Access to the Gaines Greenbelt Preserve Trail will be limited to the Violet Crown Trail nodes – two only – with no legitimate or social trail access outside of those main trail nodes (Figure 2). The only route through the Preserve is that which was approved by the BCCP Coordinating Committee for the Violet Crown Trail Master Plan.

Fencing and signage will be erected and maintained (Figure 3). Greenbelt rules will be posted at authorized access points. Sunset Valley's Trails Master Plan proposes two signs for the Gaines Greenbelt. Each of these signs will include location information, trail etiquette and rules including litter prevention, natural resources' educational information aligned with the intent and purpose of the preserve. The signs should be installed at the entrance and exit of the Sunset Valley portion of the preserve area.

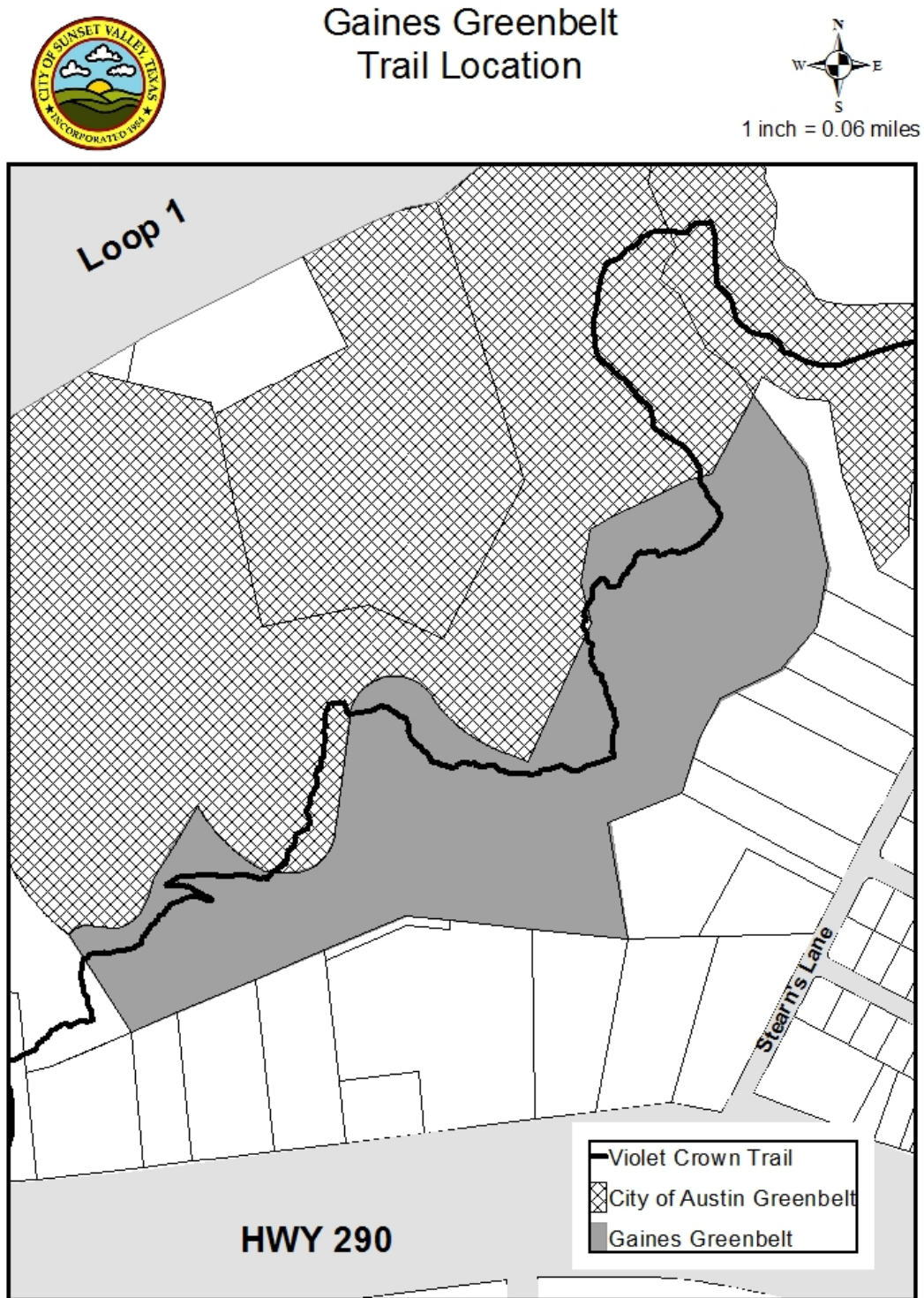


Figure 2: Gaines Greenbelt Authorized Trail (Violet Crown Trail)

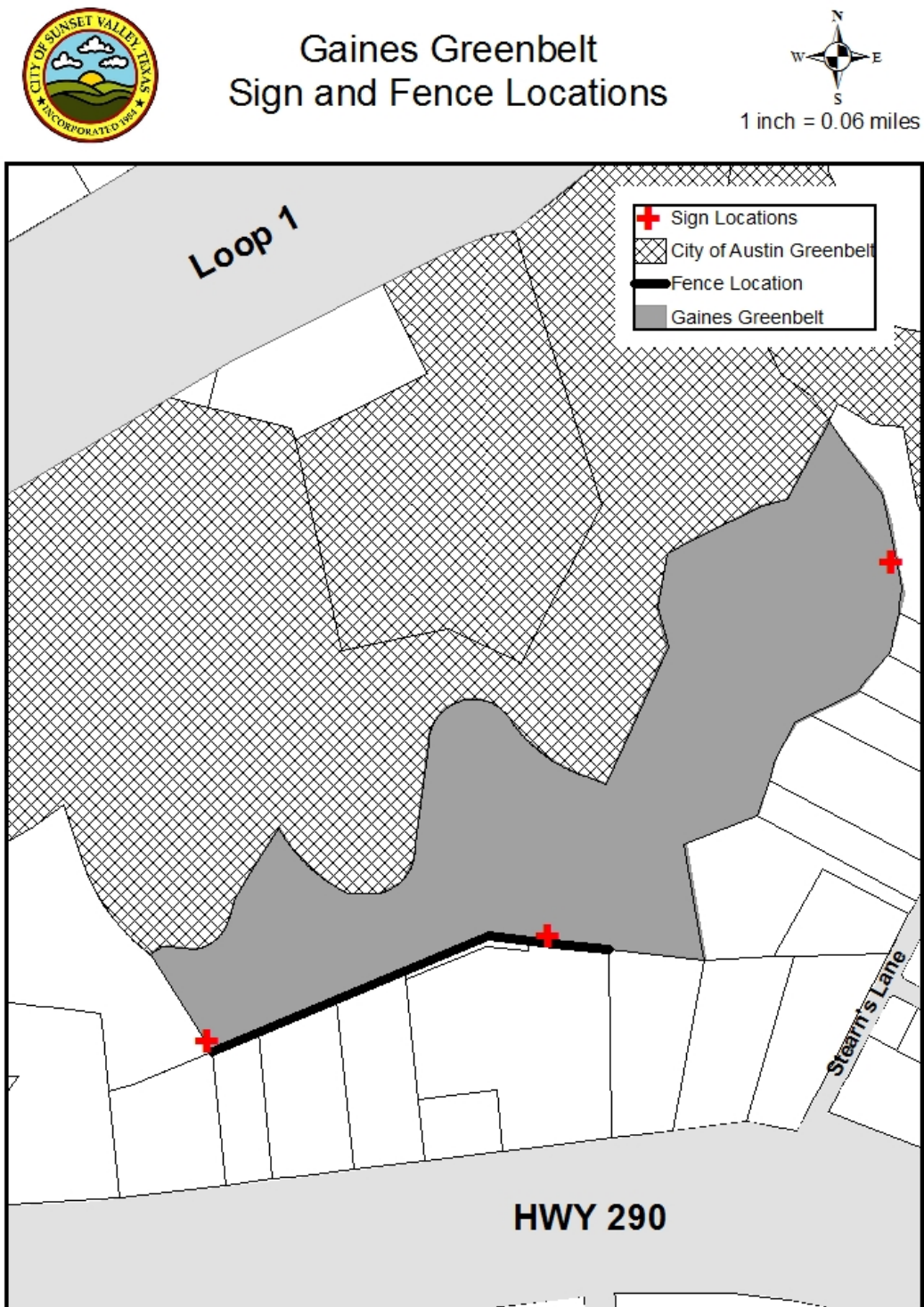


Figure 3: Gaines Greenbelt Fence and Sign Locations (2013)

As the Violet Crown Trail is completed and social trails are closed, additional fencing and/or signage may be needed. Additional locations will be mapped for as needed for subsequent versions of this document.

Daily Use and Management

Trail use will be limited to hiking, biking and on-leash dog-walking as outlined in the Managing Partner Agreement on the approved trail unless otherwise modified through the BCCP Trail Master Plan process and in compliance with the conditions of the BCCP Permit, intention of the preserve system, and resources' protection. Trail patrols will be regularly conducted by Sunset Valley staff, Sunset Valley Conservation Rangers, or other Sunset Valley approved volunteers (e.g. Violet Crown Trail Rangers, City of Austin Trail Patrol). These site visits can be combined with other activities (e.g. outreach, education, resources monitoring, invasive species control, surveys) and collaboration with BCP land managers.

Regular trail patrols will be conducted to:

- Promote user safety and emergency response
- Remove litter
- Identify areas where social trails, maintenance, and unsafe conditions require work and/or closure
- Ensure compliance with trail rules and other regulatory frameworks

Trail closures may periodically be required for maintenance and/or safety issues. A trail closure plan will be developed with Sunset Valley Police, City of Austin Parks Department, Austin Police Department, Austin Parks Police and other stakeholders. Trails will be closed when wet.

Maintenance and Social Trail Closure

Maintenance on trails will be conducted to ensure public safety and resources' protection. Only natural materials will be used; only clean fill will be used if needed. A high priority will be to close social trails upon detection and prevent their continued or habitual use. Additionally, on all pathways, erosion arrest and prevention is a high priority. See also *Restoration*.

Any trail maintenance that requires oak pruning or cutting, no matter how small, will be conducted according to the BCCP Oak Wilt Prevention Policy, BCP LMP Tier II-A Chapter 3.

Tree canopy will not be opened over trails (or other areas) unless the area presents a human or wildfire-related safety issue.

Restricted Areas or Activities

Some recreational or management activities are prohibited during the nesting period for GCWA from March 1 through August 31. Restrictions apply within 300 feet of a known GCWA territory.

Restricted activities include, but are not limited to, vegetation manipulation (tree or brush removal, plantings, trailside trimming), prolonged presence in the territory area for outreach or education events, or the use of maintenance or other machinery. The management goals for the Gaines Greenbelt are designed to protect and enhance habitat for GCWA while providing safe public recreation and

educational opportunities. The City of Sunset will make every reasonable effort to limit and control human disturbances of GCWA and associated habitat.

Trail use will be limited to hiking, biking and on-leash dog-walking as outlined in the Managing Partner Agreement on the approved trail unless otherwise modified through the BCCP Trail Master Plan process and in compliance with the conditions of the BCCP Permit, intention of the preserve system, and resources' protection.

Restoration

Social Trail Closure

Trails developed by users off of the main Violet Crown Trail route are considered social, unauthorized trails. The Managing Partner Agreement requires closure, obliteration and deterrents to use of these trails, including restoration to native vegetation. Only natural materials will be used; only clean fill will be used if needed to avoid introduction of invasive species. BCP land managers can provide guidance on appropriate plant resources for this ecoregion and specific area to maintain appropriate genetic stock and/or improve native habitat quality.

Other Sites

Areas that are damaged through natural or human disturbances will be restored and repaired in a timely manner using accepted practices for ecological restoration and guided by a written restoration plan that includes effectiveness monitoring.

Brush Control

The land management practice in Texas to reduce juniper cover and enhance savannah and mosaic (grassland - oak motte) vegetation communities (colloquially, "brush control") is not an acceptable practice on sites suitable for, occupied by, and managed for GCWA. No largescale vegetation management will be practiced on this site unless a restoration plan is submitted to and approved by the BCP Land Managers. Restoration plans which include mechanical removal or trimming will also include debris removal from the preserve as a wildfire prevention measure.

See also [*Invasives*](#)[*Invasive Species' Control*](#).

Wildfire Planning, Fuel and Hazard Mitigation, and Safety

Sunset Valley is a Firewise Community (2012) and offers homeowners free home ignition zone inspections. This program will continue and the educational program includes all homes bordering the greenbelt, with caveats for certain management practices that are not compatible with GCWA habitat management. Wildfire fuel reduction and hazard mitigation (dead tree removal) will be done in conjunction with a plan vetted by BCP Land Managers and USFWS, using USFWS-approved methods and timing. Any plans which include mechanical removal or trimming will also include debris removal from the preserve as a wildfire prevention measure.

No firebreaks within the greenbelt will be permitted without BCP Land Managers and USFWS coordination and supported by current data and risk assessment of the Community Wildfire Protection

Plan and standards of conservation practice for this habitat type. Wildfire prevention will focus on educating homeowners and coordinating efforts with the Austin Fire Department; identifying fuel and hazard mitigation areas; planning habitat-appropriate approaches to address any fuel or hazard mitigation needs; and implementing those plans with the review and assistance of BCP Land Managers.

Wildlife Management

The Gaines Greenbelt should provide habitat for a diverse variety of wildlife. Browsing ungulates (e.g. white-tailed deer, non-natives like axis or blackbuck), if not managed at or below carrying capacity, can cause a significant amount of habitat damage by feeding on tender new hardwood shoots. Hardwoods are a significant component of GCWA habitat and regeneration is a concern in this area.

Surveys will be conducted in conjunction with TPWD biologists' recommendations to establish whether deer control is needed and feasible to implement.

If needed, targeted outreach to Preserve-adjacent neighbors and general outreach during regular programs will be implemented to reduce and deter deer feeding. Outreach programs will be companion efforts to the existing Sunset Valley "no feeding" ordinance.

Feral hogs decrease native vegetation abundance, diversity, and resiliency; create pathways for non-native invasive species (e.g. vegetation, fire ants); and severely degrade water resources (creekways and springs). Hog control is paramount when hogs are detected. BCP Land Managers can provide recommendation for feral hog trapping and control methods if feral hog damage is detected.

Outreach and Education

Sunset Valley has an active Conservation Rangers program and regular community outreach related to natural resources conservation and management. BCCP and BCP information provided by existing Travis County and City of Austin preserve outreach programs can be incorporated into Sunset Valley programs, providing additional opportunities and new habitats for constituents and volunteers to engage. Programs related to the Preserve will be tracked and reported quarterly for BCCP committee meetings.

Research

Research projects are not required. Sunset Valley will participate in BCP Land Managers' Meetings and any Scientific Research Prioritization Panel that evolves out of the Land Managers' efforts, BCCP Scientific Advisory Committee, and/or BCCP Citizens' Advisory Committee. Research can be solicited from various universities, colleges, non-profits, and other conservation organizations and does not have to be conducted by staff.

Research projects may vary by macrosite and individual property, and should align with conservation goals and objectives of the BCCP, leading to applied science and practices that improve the conservation and management of the site. All data generated by research on the BCP, including the Gaines Greenbelt, will be co-owned by the BCCP partners.

All research will be conducted under the Guidelines for Research by Non-BCP Staff. Research needs and requests should be vetted through the biologists working for the BCP programs collectively and cannot conflict with the conditions of the BCCP Permit or other supporting documents. If the proposed research involves (or may affect indirectly) state or federally listed species, appropriate permits from TPWD and USFWS must be obtained prior to the start of work.

General – To Be Added As Needed

The list of proposed research needs in this section will be amended in the next iteration of the Gaines Greenbelt LMP.

Vegetation Mapping

Species richness and community mapping could be conducted to inform habitat characterization, invasive species' treatment, and restoration practices. Permanent transects are desired for regular interval monitoring (e.g. 3 years, 5 years).

Bracted Twistflower

Although no populations of the Bracted Twistflower (*Streptanthus bracteatus*) are known on the Gaines Greenbelt, the area contains suitable habitat (Fowler, 2010). Bracted twistflower is not one of the species on the Permit; however, BCCP was a signatory to a conservation MOU and BCP land managers are interested in providing protection and opportunities for well-planned and executed reintroduction, in collaboration with the species' experts. A restoration or introduction plan could be developed using standard restoration plan practices to map potential introduction/restoration sites, identify appropriate methods, and monitor restoration/introduction success.

EFFECTIVENESS

Each year the Gaines Greenbelt Preserve activities will be evaluated for project completion and compliance with BCCP and site-specific LMP goals and objectives. This LMP will be re-evaluated every five years for efficacy and changes can be made at that time. The City of Sunset Valley will monitor and evaluate habitat management in accordance with biological monitoring procedures as defined in the Balcones Canyonlands Preserve Tier II-A Management Plans.

REPORTING

Survey and monitoring, land management activities and issues, outreach, research and other activities related to elements outlined in this LMP will be reported quarterly at the BCCP Committees' meetings and in the BCCP Annual Report using the format established by the BCCP Partners and approved by the BCCP Coordinating Committee. Sunset Valley will deliver the Gaines Greenbelt Annual Report in the same timeline that BCCP Partners are required to submit reports.

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