

South Hills Natural Reserve Conservation Plan



City of San Luis
Obispo

Natural Resources Program



Natural Resources Protection Program
City of San Luis Obispo
990 Palm Street
San Luis Obispo, CA 93401

city of san luis obispo



Natural Resources Protection Program

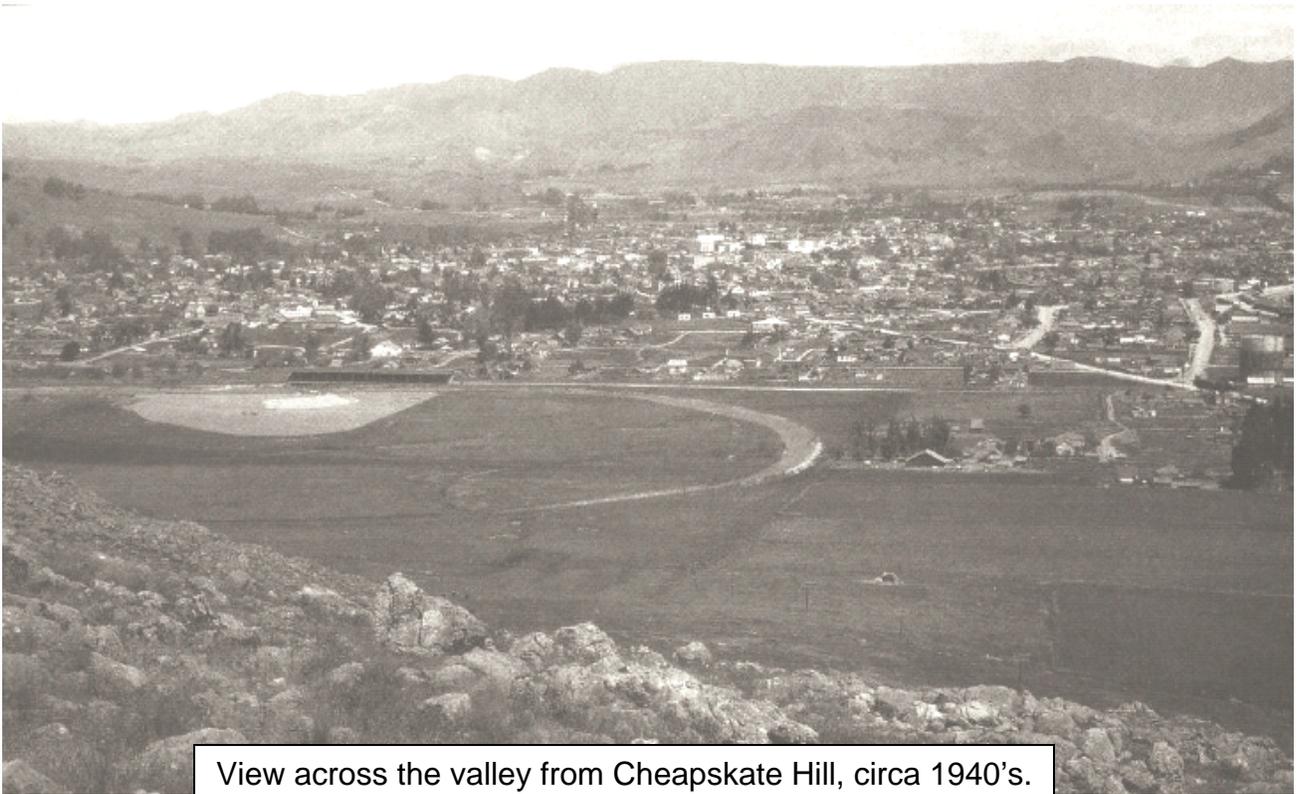
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South Hills Natural Reserve Conservation Plan

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View across the valley from Cheapskate Hill, circa 1940's.



View across the valley from Cheapskate Hill, now South Hills, September 2006.

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Executive Summary

The South Hills Natural Reserve (SHNR) is bordered by the Woodbridge and Stoneridge developments on the north and the new Margarita Area development will act as a boundary to the south. The elevation ranges between 200 and 575 feet above sea level.

Natural Features

The SHNR contains several natural habitat types and 8 sensitive and rare plant species located on the property. Serpentine bunchgrass and rock outcrops, annual grasslands, wetland seeps (both natural and artificial) and several ephemeral drainages are found on the property.

Management Issues / Concerns Associated with SHNR

There are several management issues that need to be addressed once the SHNR Conservation Plan is formally approved. These include: proper level of public access for recreation, erosion problems associated with the communication site access road, protection and enhancement of sensitive species and habitats located on the property, encroachment of non-native vegetation, and planning for mitigation from new developments around the SHNR.



How the Conservation Plan Addresses These Issues

The balancing of public use and the preservation of sensitive habitats at SHNR will be the primary focus of the Conservation Plan. Main efforts will include:

Correcting erosion problems on the communication site access road and emergency access road on the south side of SHNR;

Discouraging access to the western portion of SHNR “saddle area” by installation of fencing;

Affecting a variety of habitat improvements within SHNR, especially at the seeps and wetlands;

Controlling non-native vegetation which is encroaching in certain areas;

Photo-monitoring points have been established for baseline condition recording to ensure the resources are protected;

Incorporating a dedicated bicycle trail on the southwest side which ties into the existing fire road and implements what is called for in the Bicycle Transportation Plan adopted by the City in 1997;

Providing for fire protection and emergency response needs of surrounding developed properties.

1. Introduction

The South Hills Natural Reserve is located on the southern part of town and is a rocky serpentine series of hills which are part of the Morro Rock-Islay Hill outcrop complex. The property is approximately 131-acres and is situated north of Tank Farm Road, east of South Higuera Street and south of South Street. Being derived from serpentine, the South Hills supports a special complex of rare plants and animals.

1.1 History

The ridge commonly referred to as the South Hills or South Street Hills has been a popular walking and running destination for San Luis Obispo residents for many years. At one time there was a racetrack at the northern base of the hills. It was known as Exposition Park and it regularly held auto racing competitions attended by hundreds or perhaps thousands of people. Some, however, did not wish to pay, and those individuals would climb up onto the first hill above the racetrack to watch, and as a result that hill became known as "Cheapskate Hill". Exposition Park closed in 1925 and the property was eventually developed into a residential subdivision, known as Woodbridge. In 1981, as part of that project, about 7.7 acres of land was dedicated to the City as permanent, publicly accessible open space, which included Cheapskate Hill.

In the early 1990's planning for another residential subdivision to the southeast began, and that project, known as Stoneridge, included a further dedication of approximately 52.4 acres to the City, thereby increasing the open space to

60.1 acres. Finally, as part of the large residential development known as the Margarita Area, a further 71 acres has been offered to the City by the developer, King Ventures, first as a conservation easement, to be followed eventually by donation of fee title. This has been accepted by the City Council and for that reason the entire 131-acre site is included in this planning study. There is potential for more land to be added to the Reserve in the future.

The Haley Ranch Cattle Company has leased the property for a number of years for livestock grazing; however, this lease will expire when construction of the Margarita Area subdivision begins.

A four million gallon water tank was installed in 1972 by the City immediately adjacent to the SHNR and its paved access road is located on the property.

1.2 Background

As noted above, the South Hills were acquired by the City in several portions. The first was acquired in 1979 and the most recent was a donation from King Ventures as part of the further development within the Margarita Area.

Two biological assessments were conducted in the area by Althouse and Meade, Inc. in 2005. The first assessment was for the King property as part of the Margarita Area development, including the proposed 71 acre donation area. The second was specifically for the 60-acre northern portion of the SHNR property. Floristic surveys were performed from April through September 2005. Over 150 plant species were identified on the

property, with 8 of them being classified as rare species. Animal surveys revealed 22 different species, mostly birds. Three sensitive bird species were observed on the property although only one was thought to actually nest on the property (Althouse and Meade, Inc., 2005). Six different habitat types exist on the property and range from serpentine outcrop to annual grasslands to wetland seeps. The rare and sensitive species are distributed throughout the different habitat types. Management activities that exist and are proposed for the SHNR are public recreation, fire road management, erosion control, sensitive habitat restoration, and endangered species enhancement.

1.3 Access

Currently, there are two dedicated access points to SHNR; Exposition Drive and Bluerock Drive. On-street parking is offered at both sites and the access point from Bluerock Drive serves as a maintenance road for the City's water tank and for emergency vehicle access. There is an unpaved fire road that breaks off the paved road to the water tank and bisects the property to serve as an access road to the communication site located on the ridge above the "saddle" area on private property. Current City requirements for new development in the surrounding area will include three new access points into SHNR. These include (1) a pedestrian and bike trail access from the King property on the south side of SHNR, (2) another from the Bridge Street project, and (3) a third, pedestrian only access from the Lawrence Drive project when it is undertaken. On street parking is currently available at the two access points and is expected to also be

available at the new anticipated access points.

2. Inventory

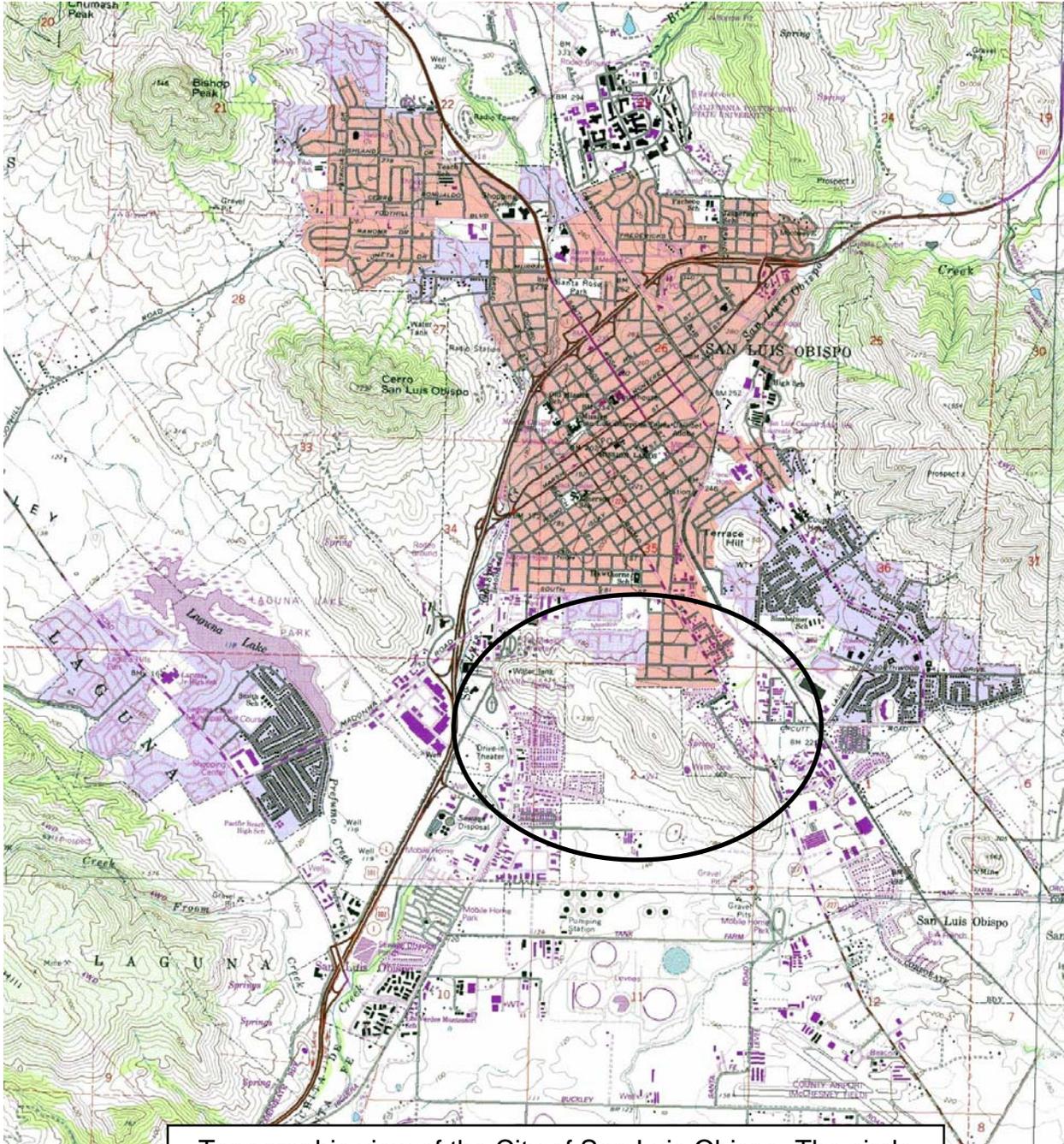
2.1 Physical features

Area – 131 acres
Miles of trails – 2.70 miles
Miles of waterway – 0.87 miles
Access points – Two official access points; Exposition Drive and Bluerock Drive. Two more access points are proposed with currently approved development. A third is anticipated in the future.

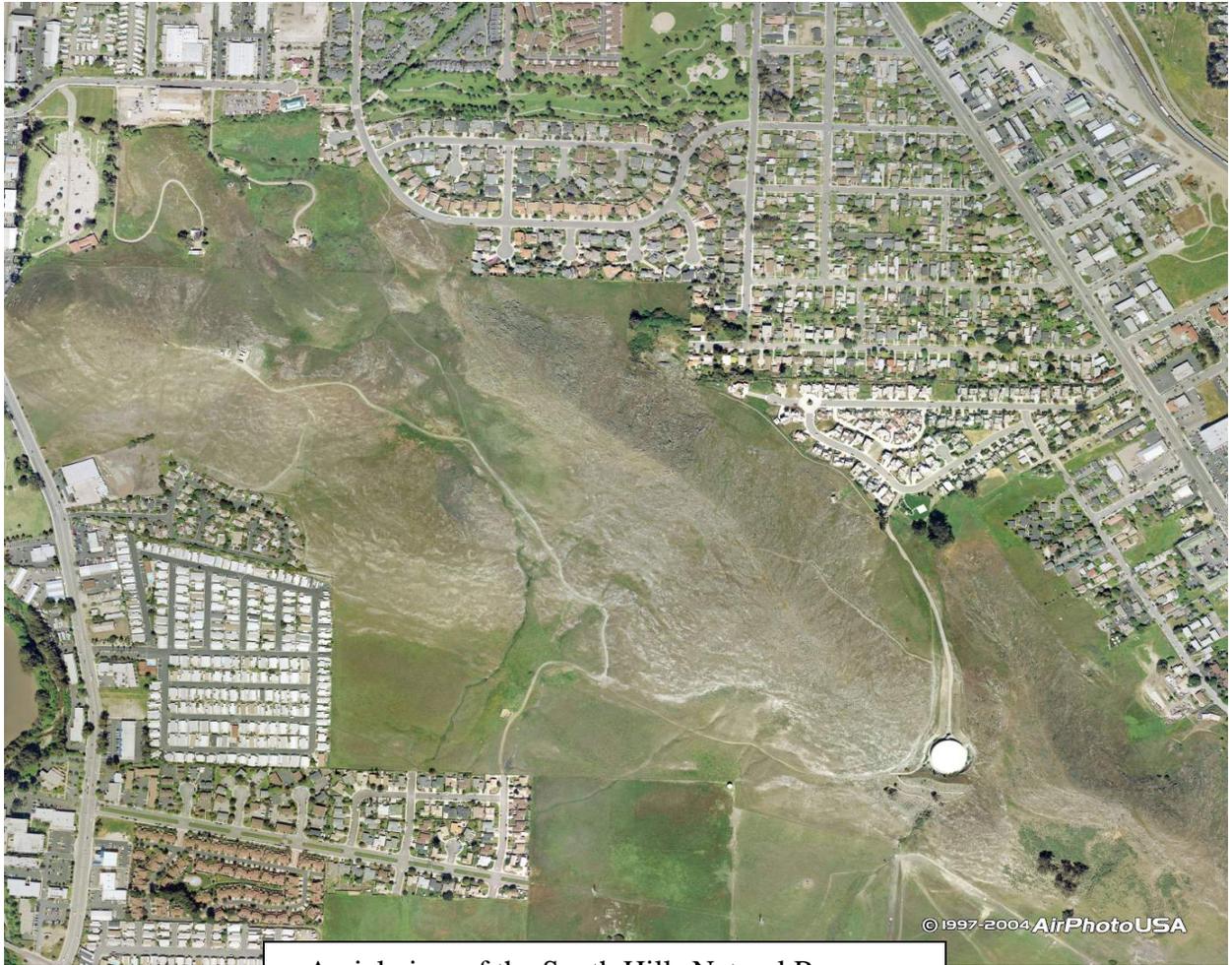
Upon first looking at the property, it would appear barren but based on the habitat available, the features and resources on the SHNR property are extensive. It is a natural series of short ridges of serpentine running in a northwest-southeast direction and reaching an elevation of approximately 575 feet above sea level with a "saddle" area in between the two ridges located on the property. Wetland seeps and the saddle area support several different species of sensitive plants. Very few trees are found on the property due to the poor soil. Thus, the primary habitat types are coastal scrub and grassland.

2.2 Cultural/Historic Resources

An Environmental Impact Report was completed and certified in 1992 for the Stoneridge II Subdivision. A cultural investigation associated with that project identified one structure of historical interest within SHNR. This is a cistern created from native rock pressed against a wood form with concrete poured over the rocks to form a 23.5x33x12-foot storage structure (ERC, 1992). A second cistern was identified



Topographic view of the City of San Luis Obispo. The circle indicates the location of the South Hills Natural Reserve in relation to downtown San Luis Obispo.



Aerial view of the South Hills Natural Reserve.

below the first but that one was covered to allow the Stoneridge development to be completed. A pump system was created to keep the water supply intact and augment the cistern on the hill. Since the roof on the cistern located on the hill had fallen into the structure, the roof from the lower cistern was used to replace the other with native materials.

No prehistoric resources were identified on SHNR property, however, four archaeological sites have been identified within 2 kilometers of the site.

2.3 Soils

According to the Natural Resource Conservation Service's Soil Survey of San Luis Obispo County, California, Coastal Part (1984), the vast majority of SHNR consists of the Obispo-rock outcrop complex. This soil type is best suited to wildlife habitat and watershed, having very limited agricultural value (even for livestock grazing) and presenting various engineering problems. The type's capability class is VIIe, meaning it is unsuitable for crops and characterized by high erosion hazard.

A few areas around the edges of SHNR, and in the "saddle" area, consist of Cropley, Diablo, or Cibo clays. These soils support more productive grassland vegetation. A soil map is attached as Figure 2.

2.4 Water

Water resources on SHNR are sparse. Three large seeps are located on the property along with several smaller ones. Per mitigation requirements for the Stoneridge development, one

existing cistern was covered by the development and the cistern on the hill behind the development was upgraded to deliver water to a nearby seep for enhancement purposes. Two natural seeps were lost to the development so wetland vegetation was transplanted to the new enhancement site located immediately behind Stoneridge Park. A cistern under the road, where Stoneridge meets Bluerock, collects water then pumps it uphill to the cistern within SHNR; from which point the water is distributed by gravity to the enhanced wetland seep approximately 200 yards away, mimicking the natural water flow (RRM, 1992). Maintenance of this system is the requirement of the Stoneridge project.

2.5 Habitat Types

2.5.1 Serpentine bunchgrass

A search of the California Department of Fish and Game (DFG) Wildlife Habitat Relationship System (WHR) identified serpentine bunchgrass as a sensitive natural community. This habitat type is located scattered around the SHNR property and in a larger expanse on the "saddle" portion where there is better soil. Purple needlegrass, *Nasella pulchra*, dominates this habitat type. The rare plants that are located in this habitat are Obispo Indian paintbrush, *Castilleja densiflora ssp. obispoensis*, Cambria morning glory, *Calystegia subacaulis ssp. episcopalis*, and San Luis Obispo clay mariposa lily, *Calochortus argillosus*.



Obispo Indian Paintbrush

2.5.2 Serpentine Outcrops

Habitat areas of thinner soils or with exposed rock are termed serpentine outcrops. The chemical properties of serpentine rock and their associated soils, high in magnesium, low in calcium, containing large amounts of iron and nickel, and typically deficient in nitrogen and phosphorus, make vegetation establishment very difficult. Only certain plant species which are serpentine endemic are found here. Brewer's spineflower, *Chorizanthe breweri*, and San Luis Obispo dudleya, *Dudleya abramsii ssp. murina*, are two rare plants found only on serpentine outcrops in San Luis Obispo County and are abundant in the SHNR.



Brewer's Spineflower

2.5.3 Annual Grassland

Annual grassland habitat is found along the northern portion of the SHNR property where soils are deeper and richer. There are small areas where the

serpentine outcrop recedes and open area has been colonized by wild oats, ryegrass and brome. These habitat types are dominated by Mediterranean annuals following farming or grazing. Grazing is a practice that will be removed to allow further restoration on the property. Plant species commonly encountered in grassland habitat on the site include:

- Foxtail barley (*Hordeum sp.*)
- Ryegrass (*Lolium sp.*)
- Wild oats (*Avena fatua*)
- Ripgut (*Bromus diandrus*)
- Purple needlegrass (*Nasella pulchra*)

2.5.4 Coastal Scrub

There is a coastal scrub habitat located on the southeast portion of the serpentine ridge that bisects the SHNR property. The dominant plant is California sagebrush, *Artemisia californica*, and is the most common shrub found on the property. Palmer's spineflower, *Chorizanthe palmeri*, is a rare plant species with a List 4 determination and is abundant in rocky areas and within the coastal scrub habitat. Plant species commonly noted within coastal scrub habitat during the surveys include:

- California sagebrush (*Artemisia californica*)
- Black sage (*Salvia mellifera*)
- Coyote bush (*Baccharis pilularis*)
- Chamise (*Adenostoma fasciculatum*)
- Toyon (*Heteromeles arbutifolia*)

- Coast live oak (*Quercus agrifolia*)
- Deerweed (*Lotus junceus*)
- Poison oak (*Toxicodendron diversilobum*)
- Monkeyflower (*Mimulus sp.*)
- Blue elderberry (*Sambucus mexicana*)
- Wild buckwheat (*Eriogonum sp.*)
- Morning glory (*Calystegia macrostegia*)
- Saw-toothed goldenbush (*Hazardia squarrosa*)
- Wild rose (*Rosa californica*)



Palmer's Spineflower

2.6 Plants and Wildlife

2.6.1 Plants

Floristic surveys were conducted from April to September 2005 with over 150 plant species identified on the SHNR property. There are 103 native species, with 8 of those considered rare according to the CNPS, and 48 introduced species. The rare plants found on the property have status recordings of List 1B and List 4. The categories are on a scale of low threat (List 4) to species that are presumed extinct (List 1A). There are 1038 plants on List 1B and are rare throughout their range. All but a few are endemic to

California and all are judged to be vulnerable under present circumstances, or to have a high potential to be vulnerable. Vulnerability is due to limited or sensitive habitat, low numbers of individuals per population, or low numbers of populations. The majority of these species are serpentine dependent. Due to the harsh environment where most of these plants are found, along with the disturbance from cattle, their distribution classifies them for listing as sensitive species. The protection of the SHNR provides these plants with protection and leads to possible enhancement and increase in numbers.

Very few trees are found on the property and all but very few have been planted by various projects and mitigation efforts.

A list of sensitive plant species found on the property is provided in Table 1 (Appendix B).



Clay Mariposa Lily

2.6.2 Animals

Animal surveys were conducted on the SHNR property in August 2005. There were 77 different species expected to be encountered on the SHNR property based on literature searches and habitat type descriptions; of these, 22 species were actually found by on-site surveys.

Sixteen species of birds, reptiles, amphibians, small mammals, and a small population of red foxes exist in the SHNR.

The different habitat types present offer forage and hiding areas for small mammals which in turn act as prey for larger mammals and raptors. Deer mice were the most prolific rodents on the property apparently feeding coyotes, resident red foxes, peregrine falcons, and American kestrels. The raptors probably migrate through while foraging but several smaller birds like sparrows, finches, swallows and doves may actually nest on the property.

Larger animals such as fox, coyote, and deer are occasionally seen at SHNR; however cover for these species is limited and, except for the foxes, they appear to only be visitants.

A list of potential and encountered animal species is provided in Table 2 (Appendix B).

3. Goals and Policies

The *“Conservation Guidelines for Open Space Lands of the City of San Luis Obispo”* describes City-adopted management guidelines and policies which are outlined in the City’s *“Conservation and Open Space Element”*.

Management of SHNR will be undertaken by the City with the following goals:

3.1 To conserve, enhance, and restore natural plant communities; to protect sensitive endangered plant species and their habitats; and to

maintain biodiversity of native plants and animals.

3.2 To provide the public with a safe and pleasing natural environment in which to pursue recreational activities, while maintaining the integrity of the resources and minimizing the impacts on the wildlife and habitats present in the Reserve.

3.3 To preserve and restore creeks, wetlands and ephemeral seeps or springs to a natural state, and provide suitable habitat for all native aquatic and riparian species. To minimize the impacts of harmful activities, such as the release of pollutants, while maintaining the drainage systems as a means of conveying storm water into and within urban areas.

3.4 To protect and preserve native plant and animal species and enhance their habitats, in order to maintain viable wildlife populations within balanced ecosystems.

Public Comment and Input

This conservation plan aims to accommodate the wishes and desires of the general public while addressing the City’s goals in the Conservation and Open Space Element. A public meeting was held in February 2006 as well as meetings with other groups for input on the conservation plan and the following comments were recorded:

- No public road (e.g. connecting the road by the water tank for through traffic).
- Visual impact of fences, other structures a concern among residents.
- Leave area alone, it is beautiful the way it is. It is “open space” not a park.

- Encourage volunteer programs for hikes, upkeep, improvements.
- Have restricted access to the commercial radio tower hill.
- Consider trail augmentation from Crystal Springs Co.
- Concern with bike vs. pedestrian conflicts; small size of property not conducive to bike trail.
- Bike use needs to be controlled, especially on the ridges.
- Cross-country riding can be damaging.
- Keep improvements simple and low key.
- Split-use (½ pedestrian trails, ½ bike trails) may bring pressure for more bike trails.
- Have reasonable/safe access during wet conditions.
- Bike clubs could build a safe trail along the north east side of the property to develop a loop trail system.

4. Conservation Plan

4.1 Naming

This area has had the unofficial name of South Street Hills, or South Hills, for a number of years. The City Council has never designated a formal name for the site, and it is considered appropriate to do so at this time. Given that the property consists of several independent acquisitions, it is consistent with the City's Open Space Ordinance (Municipal Code 12.22.30) to identify the site as a "Natural Reserve". Furthermore, given the seeming incongruous name of "South Street Hills", naming an ancient natural feature for a road, it is recommended that the name "South Hills Natural Reserve" be declared official.

4.2 Land Designations

Four land designations are recommended for SHNR. These include Habitat (125.5 acres or 96%), Management/Trail Corridor (4 acres or 3%); Restorative (1.5 acres or 1%); and Historic/Cultural (0.01 acres or 0.1%).

4.2.1 Habitat Area

The great majority of SHNR will be designated as Habitat Area. The primary purpose of this area will be to protect the natural environment that exists with only limited human intervention. Due to the serpentine backbone that extends along the ridge of the SHNR, the plant species present on the property have adapted to the soil and habitat conditions. By limiting and designating specific trail routes and allowed uses of the routes, the City will seek to maintain natural state of the property while allowing the public the opportunity to enjoy this open space island. In addition, as time and resources are available, small plantings of suitable native species will be undertaken in and around the seeps, springs, and other wet areas of the site, to encourage an increase in plant diversity. Finally, efforts will also be made to remove aggressive exotic species, chiefly Scotch broom, which have established in a few areas of the Reserve.

4.2.2 Management Area/Trail Corridor

Currently two access points service the SHNR property. Three new access points are proposed with new developments around the SHNR. Two recreational trail types are proposed for use on the SHNR property; pedestrian

(passive) and bicycle (active) trails. To reduce the impact to the sensitive areas of SHNR, mountain bikes will be restricted to roads and the connection from the “saddle” to Exposition Drive.

The entryway at Exposition Drive is suitable for some tree planting to add to that which has been done there in the past, and this will be done on an “as time and resources are available” basis.

Pursuant to Council-directed requirements for the development of the Margarita Area, a Class I bike path is to be installed connecting those developments to the Damon-Garcia Sports Complex: about one-half mile of this bike path will be within SHNR. In accordance with the City of San Luis Obispo’s Bicycle Transportation Plan of 1997, this is part of the series of off-street transportation network to promote alternative transportation. That Plan formally established a framework of goals, policies, procedures, and standards for the development of a citywide bicycle transportation network. Only pedestrian traffic will be allowed on the ridge trail due to the rocky, uneven substrate which would make riding there unsafe. Appropriate signage will be placed at trailheads and other proper locations to direct users accordingly.

In addition, staff will continue to study a trail which would complete a loop around the SHNR connecting the entrances at Exposition and Stoneridge without having to use the ridge trail. The area along the northeast portion of the property will be monitored to determine if increased usage calls for a dedicated trail there.

Finally, the 20 foot perimeter of SHNR that abuts developed properties is also placed in the Management Area/Trail Corridor designation, due to its highly managed nature, including fuel management and localized storm drainage facilities.

4.2.3 Restorative Area

The wetland on the northeast side of SHNR would benefit from additional wetland and riparian plantings. For that reason it is designated as a restorative Area. Once restoration activities have been successfully completed, this area would revert to a Habitat Area designation.

4.2.4 Cultural/Historic Area

The cistern located on the property is a large structure, but does not require any special management. There is an access hatch in the roof of the structure that is locked so the maintenance requirement for the system is minimal, and that maintenance is an obligation of the Stoneridge Homeowners’ Association. The structure and its immediate surroundings will be designated a cultural/historic area.

Resource Map

The Natural Resources Program and the City’s GIS Department staff will be building a concise detailed map of the distribution of sensitive plants and animals located on the property. Once these areas are identified, the final trail system and interpretive signage can be designed in such a way to educate the users on the property and also keep these resources protected and allow them to flourish. With future development still in the future for

properties on the southern portion of SHNR, the resource map will be updated as new property or trails are added to the system in place now.

Resource protection

There are several natural seeps present on SHNR property that could be rehabilitated once cattle are removed. The cattle use these areas for water and forage, trampling the vegetation as they roam. Once the cattle are removed, the areas can be fenced, if necessary, to prevent people from damaging these areas and begin restoration of sensitive species.

Erosion is a significant problem on the SHNR property. As water collects and is conveyed through small swales that intersect with the fire/access road, significant gully erosion occurs. Some remedies that have been implemented on the property are non-native gravel importation to facilitate access and geo-textile erosion prevention measures. Neither of these two methods has proved very successful. The gravel is now dispersed through the lower drainage areas and the geo-textile has simply failed to keep the erosion on the road from happening. New techniques need to be researched to decrease the erosion along the road.

Resource Enhancement

Potential exists at SHNR for rare and endangered plant restoration. Several natural seeps and an engineered seep exist on the SHNR property that could be used to expand the coverage of rare and endangered plants endemic to SLO County. Once cattle are removed from the property and some exclusionary

fencing and/or signage is erected to keep people out of sensitive areas, rare and endangered species like the Chorro Creek bog thistle, *Cirsium fontinale obispoense*, could be transplanted and encouraged to spread naturally in the seeps present on the property. A Section 10 permit would be required to transplant endangered plant species as they are covered under the direction of U.S. Fish and Wildlife Service following the Endangered Species Act.

Development Mitigation

Several species of concern will be impacted by the Margarita Area Development project: these are mostly plant species, but also include one potentially affected animal species. These are discussed individually below.

Palmer's Spineflower (*Chorizanthe palmeri*). This species is found throughout the South Hills. A small portion of the population will be lost through development; however, the open space dedication of the project will secure a much larger area of occupied habitat.

Brewer's Spineflower (*Chorizanthe breweri*). The situation for this species is the same as for the above.

Obispo Indian Paintbrush (*Castilleja densiflora ssp. obispoensis*). In 2005 this species was found in large numbers both within the Margarita area (including the open space lot) and on the Unocal Tank Farm property nearby. Hoover (1970) reported this subspecies as occurring from about Ragged Point on the northern boundary of San Luis Obispo County to the San Luis Obispo area. It is not certain whether the

subspecies was observed in the more northerly areas or not, but it is reasonable to assume so, as conditions in the North County area have not changed much in the years since publication of the *Vascular Plants of San Luis Obispo County*.

Miles Milkvetch (*Astragalus didymocarpus* var. *milesianus*). This rare variety is reported from locations in coastal San Luis Obispo and Santa Barbara Counties. Hoover reports it as found in clay soils, usually derived from serpentine, from Morro Bay to San Luis Obispo. The approximately 25 individuals found in the survey were observed within the project development envelope.

San Luis Obispo Dudleya (*Dudleya abramsii* ssp. *murina*). There are eight individuals of this species that will be lost to development. The species has considerable habitat in the South Hills and those individuals are proposed to be transplanted into the Reserve.

San Luis Obispo Mariposa Lily (*Calochortus simulans*). Approximately 25 individuals of this species will be lost to development. The species has additional occupied habitat in the South Hills. The open space dedication of the project will secure much of that habitat (some is already secured). The bulbs may be hard to find, could be damaged while being searched for, and could be time-consuming to replant. The relocation of these individuals may be considered and undertaken if it can be accomplished at low cost.

Adobe Sanicle (*Sanicula maritima*). Approximately 500 individuals of this species have been found within the

project area and they would be lost due to the development. This species is considered very rare and San Luis Obispo may be the only area where it is found, according to the Jepson Manual. A small population is known from a seep in Laguna Lake Park within the City. Rescue and relocation of as many individuals as feasible is underway.

5. Implementation

The priority and order in which these tasks shall be implemented is detailed below. Each task has been designated to staff from the City's Natural Resources Program (NR), Parks and Recreation Department (PR) or other City staff as specified.

Ongoing Tasks

General maintenance activities in accordance with the adopted policies described in "*Conservation Guidelines for Open Space Lands of the City of San Luis Obispo*" shall be implemented on a regular or 'as needed' basis throughout the 5-7 years covered by this Conservation Plan (NR/PR).

Specific Tasks

Years 1-2

- Install educational signage at City sanctioned trailheads.
- Study the potential for a loop trail system to support both passive and active recreation users.
- Start restoration projects for sensitive plant species impacted by near-by development upon removal of livestock.
- Investigate transplanting of local endangered species for

propagation on the SHNR property.

- Produce wildflower guide for the SHNR.
- Confirm alignment and proper form, appearance and function (i.e. pedestrian only) of a local access trail from the Lawrence Drive project to the existing ridge trail. Install the trail.
- Confirm alignment, and proper form, appearance and function of a local access trail from the Bridge Street project. Install the trail in proper form to allow bicycles.

Years 3-4

- Continue activities outlined above to completion.
- Assess success of introduced sensitive plant species and determine if the habitat used is encouraging growth.
- Investigate expanding transplanting potential to increase populations of sensitive plant species.
- Consider potential for installation of a new northeast trail.

Years 5-6

- Continue activities outlined above to completion.

Addressing the Issues

A functioning loop trail system appears desirable but has some local residents concerned. Work needs to be done on the access roads on the property to reduce the impact from the erosion happening on the property. Development of interpretive signs to

educate visitors about the resources and importance of SHNR should be done. Identification of the locations of the sensitive plant and animal species on the property partnered with enhancement actions to encourage natural propagation through time and removal of small “islands” of non-native grasses and shrubs and replacement with native vegetation will be done. Develop ongoing monitoring programs to ensure sensitive areas and restoration areas are protected. All these actions, goals and recommendations will be achieved when funds and opportunities become available.

Wildfire Preparedness Plan

Since there is basically no brush to be controlled or modified for fire protection purposes at SHNR, wildfire preparedness will concentrate on ensuring that emergency access designated in the Conservation Plan will be able to serve those needs, and that a minimum 20 foot mowed buffer will be maintained on the perimeter of the Reserve where it is adjacent to developed property. Some adjacent developments are already required to do such work, but in some places this requirement is not in effect, and City staff will ensure that this program is carried out in those areas.

Livestock Grazing

Livestock grazing is currently permitted since SHNR is not separately fenced from the adjacent private property on the south, owned by King Ventures. Once that property begins to develop, it is expected that livestock will be removed from both the private property

and from SHNR. After that time livestock grazing will not be permitted as soils on the property are too poor and water resources too limited to support a livestock grazing program.

6. Fiscal Statement

The fiscal impact of the adoption of the SHNR Conservation Plan is expected to be minor. It will consist of patrol and maintenance of the property at a slightly increased level than currently exists, and the implementation of several small-scale capital improvements. The latter include:

- Mitigation measures from development to protect sensitive plant species (not a City obligation);
- Enhancement of existing trails, and continued study of a single trail route along the north east side of the property to form a loop route;
- Installation of educational and directional signage to identify pedestrian and bicycle trails; and
- Fencing of certain sensitive areas as needed to control access and foster habitat restoration and enhancement in those areas.

None of these projects is considered costly. The new trail plus the related closures, would call for expenditures in the \$1,000-\$2,000 range for materials. These could be paid out of maintenance funds from the Natural Resources program. The restoration projects may be funded internally or may utilize grant fund or mitigation sources.

The fire preparedness plan has certain minor maintenance costs associated with it, specifically, periodic mowing of

the grass areas to form a buffer and removal of vegetation litter in a limited area. It is expected that the level of staffing for the Reserve would not change unless there was a major change in its status.

7. Monitoring

A series of six photo-points have been established at SHNR which include areas of exotic species, grasslands, restoration sites, major trails and existing erosion gullies. Figure 5 details where these monitoring points are located. The sites will be visited at least biannually and photographs taken from the same perspective. This will give a temporal record of the status of the resources present at SHNR over time. Should examination of subsequent photographs suggest that the status of the resource is being negatively impacted (i.e. exceeding limits of acceptable change) by visitor activity or management decisions, permitted uses and management strategy will be re-evaluated.

Photo-point 1: This point is the main entrance on Exposition Drive. The City will realign this entrance to move foot traffic away from the residences and also avoid a steep and potentially unsafe section of trail. This entry area may be suitable for mitigation or enhancement plantings; these will be considered on their own merits.

Photo-point 2: This is one of the ephemeral seeps located on the SHNR with sensitive species located within it and the City will undertake further enhancement of this drainage with plantings such as Chorro Creek bog thistle.

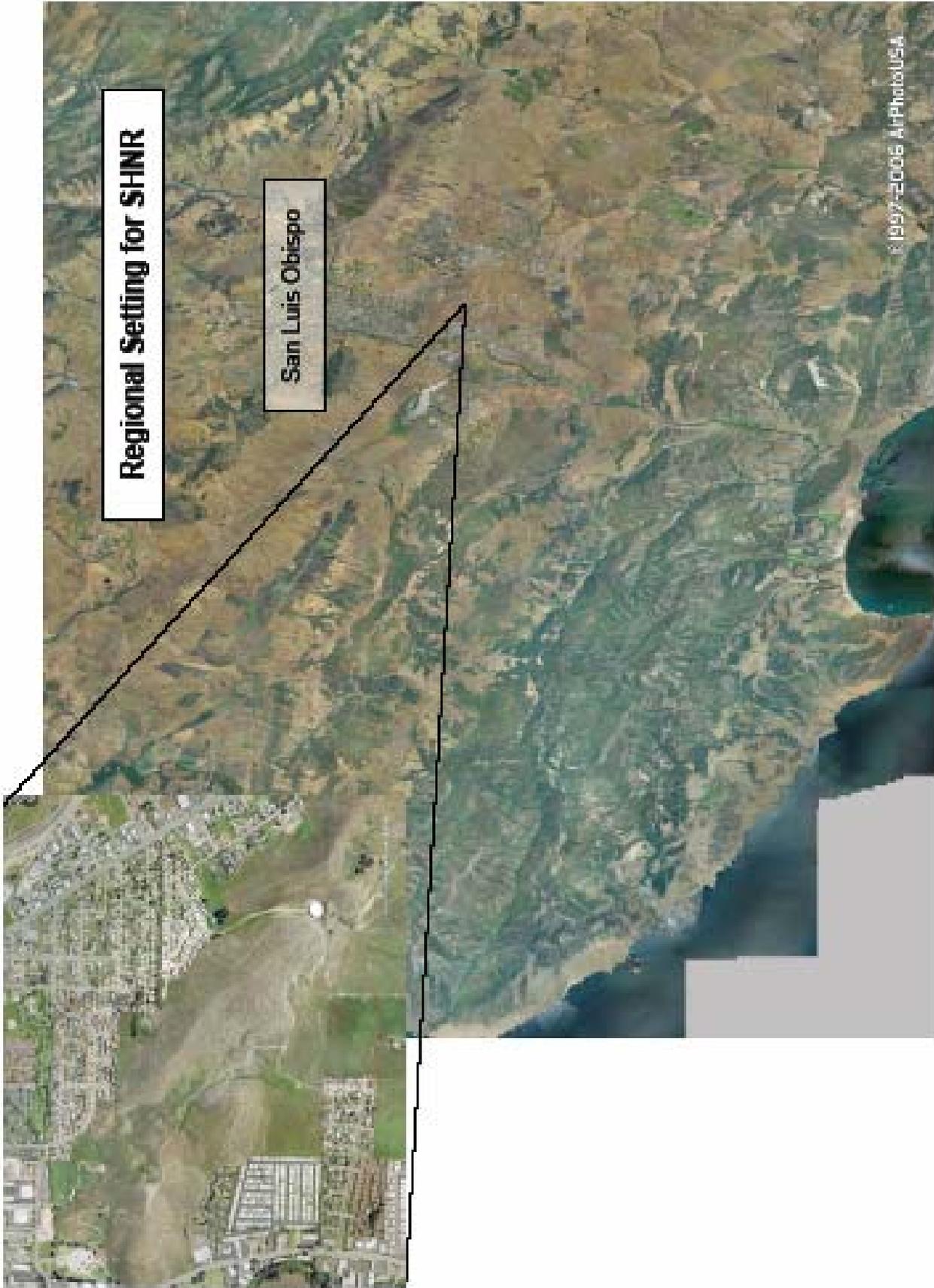
Photo-point 3: This point looks down slope on either side of where a new trail may run through on the northeast side. There is Scotch broom located on the adjacent property whose seeds are carried onto the SHNR. Close monitoring and regular removal of invading Scotch broom will be done to prevent this species from becoming established.

Photo-point 4: This point looks over the saddle area and down into the southern portion of the property. The Margarita Area development anticipates use of this area for grassland mitigation.

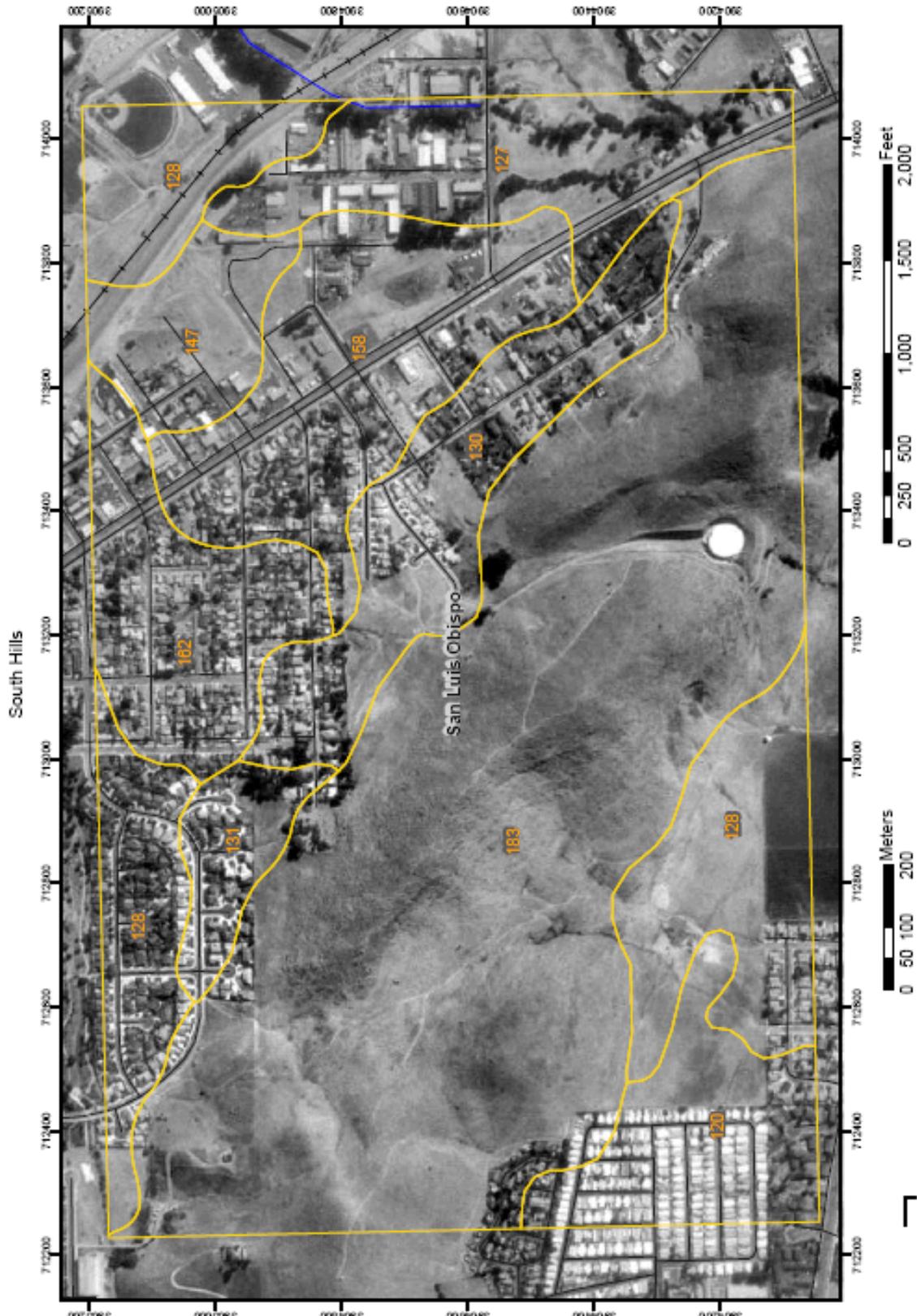
Photo-point 5: This point has several sensitive issues tied to it. This is where the erosion of the fire road will be monitored, transplanting of sensitive vegetation from the King development will occur in the seasonal creek adjacent to the road, and monitoring of the seeps on the hillside over time. The area to the west (downhill) of the road will be fenced to discourage access to this steep and sensitive site.

Photo-point 6: This point is for the overview of the SHNR. Monitoring of the roads and trails can take place here as well as the changing landscape of the City of San Luis Obispo.

Appendix A



SOIL SURVEY OF SAN LUIS OBISPO COUNTY, CALIFORNIA, COASTAL PART



SOIL SURVEY OF SAN LUIS OBISPO COUNTY, CALIFORNIA, COASTAL PART

South Hills

MAP LEGEND

-  Soil Map Units
-  Cities
-  Detailed Counties
-  Interstate Highways
-  Roads
-  Rails
-  Water
-  Hydrography
-  Oceans

MAP INFORMATION

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
Coordinate System: UTM Zone 10
Soil Survey Area: San Luis Obispo County, California,
Coastal Part
Spatial Version of Data: 1
Soil Map Compilation Scale: 1:24000

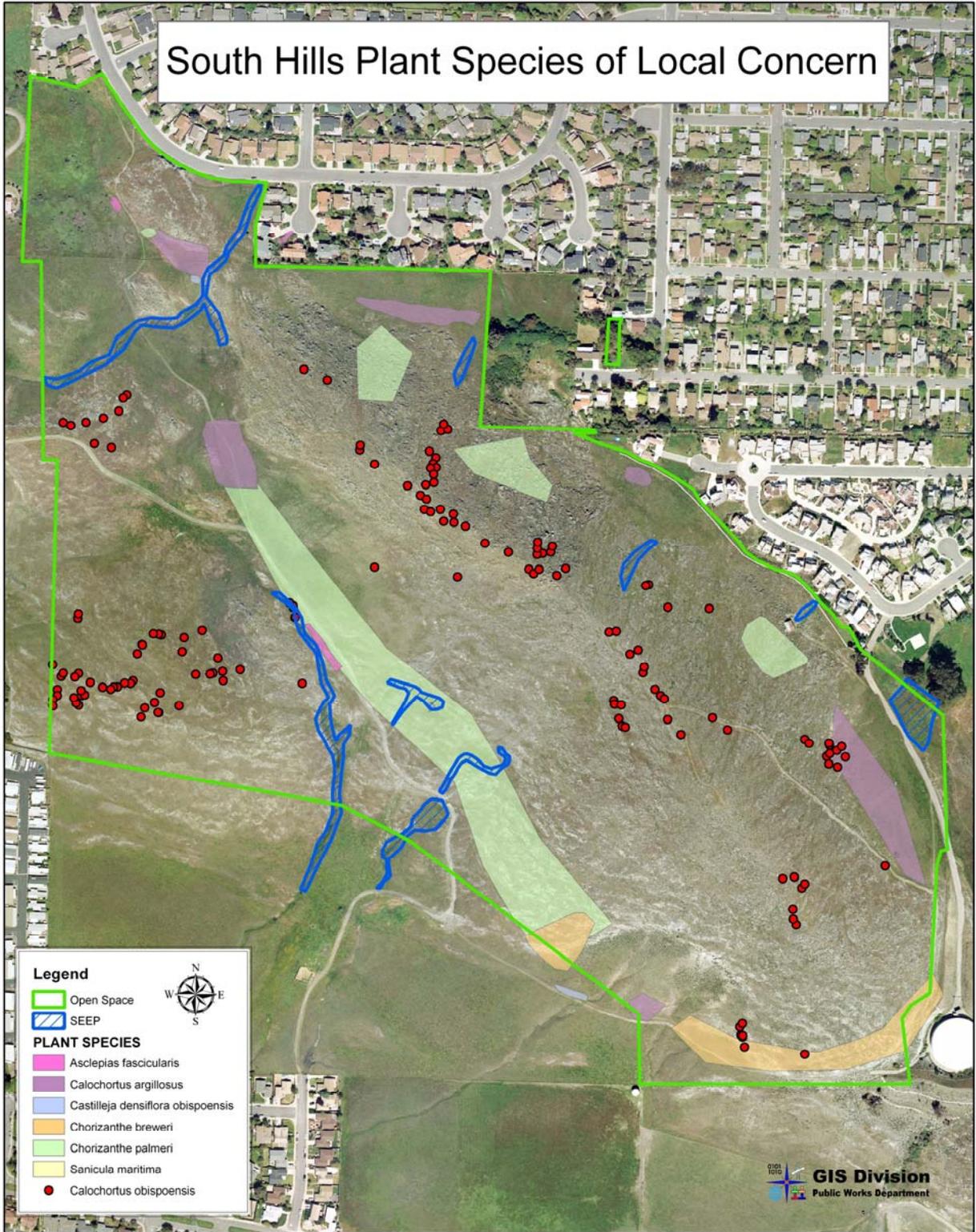
The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend Summary

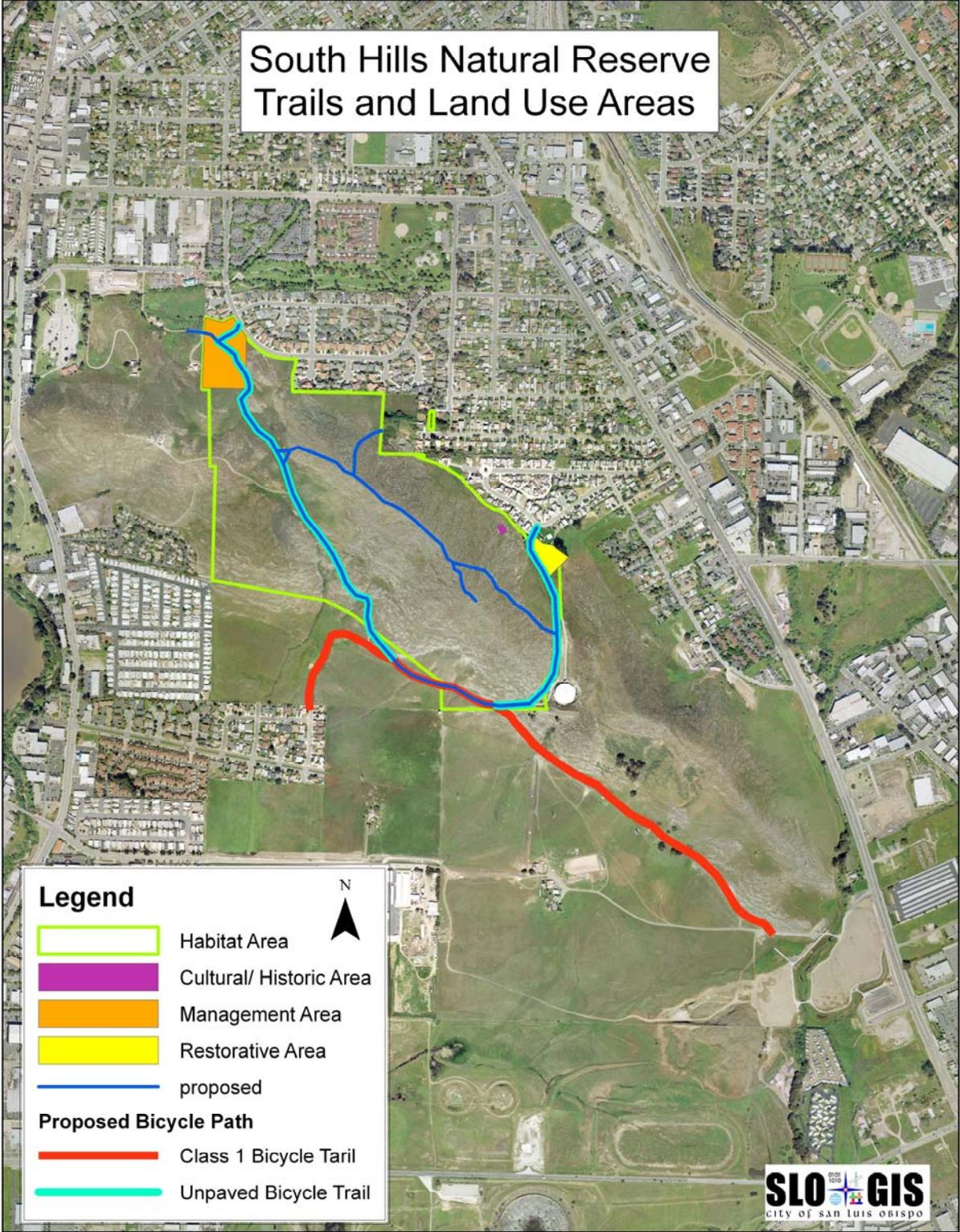
San Luis Obispo County, California, Coastal Part

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
120	Concepcion loam, 2 to 5 percent slopes	28.2	5.5
127	Cropley clay, 0 to 2 percent slopes	38.7	7.6
128	Cropley clay, 2 to 9 percent slopes	71.6	14.0
130	Diablo and Cibo clays, 9 to 15 percent slopes	39.2	7.7
131	Diablo and Cibo clays, 15 to 30 percent slopes	11.4	2.2
147	Lodo clay loam, 5 to 15 percent slopes	18.0	3.5
158	Los Osos loam, 5 to 9 percent slopes	51.4	10.1
162	Los Osos-Diablo complex, 5 to 9 percent slopes	32.6	6.4
183	Obispo-Rock outcrop complex, 15 to 75 percent slopes	219.5	43.0

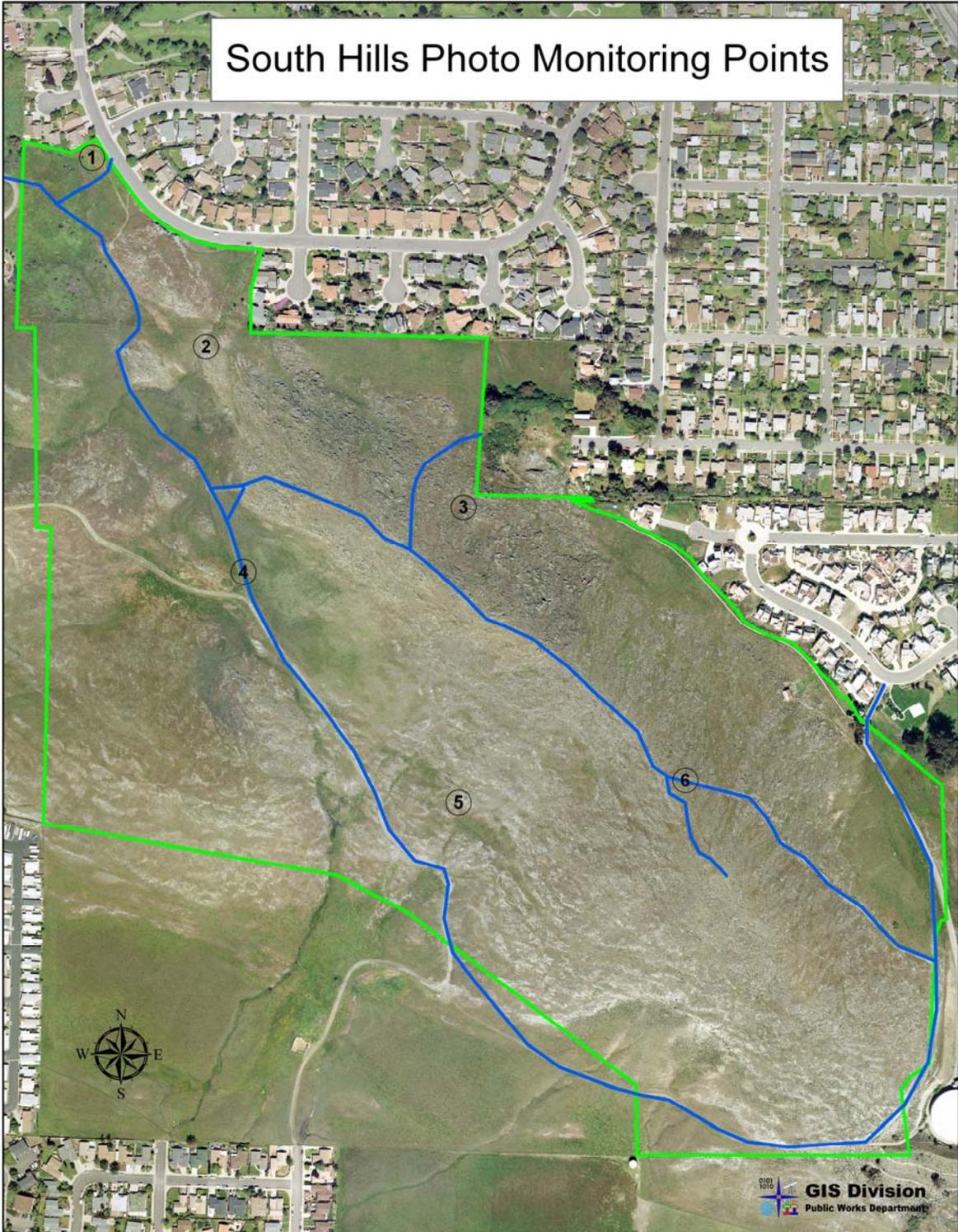
South Hills Plant Species of Local Concern



South Hills Natural Reserve Trails and Land Use Areas



South Hills Photo Monitoring Points



Appendix B

Table 1

Common Name	Scientific Name	Status	Native/ Introduced
San Luis mariposa lily	<i>Calochortus obispoensis</i>	List 1B	Native
San Luis Obispo mariposa lily	<i>Calochortus simulans</i>	List 1B	Native
Cambria morning glory	<i>Calystegia subacaulis</i> ssp. <i>episcopalis</i>	List 1B	Native
Obispo Indian paintbrush	<i>Castilleja densiflora</i> ssp. <i>obispoensis</i>	List 1B	Native
Brewer's spineflower	<i>Chorizanthe breweri</i>	List 1B	Native
Palmer's spineflower	<i>Chorizanthe palmeri</i>	List 4	Native
San Luis Obispo dudleya	<i>Dudleya abramsii</i> ssp. <i>murina</i>	List 1B	Native
Blochman's dudleya	<i>Dudleya blochmaniae</i> ssp. <i>blochmaniae</i>	List 1B	Native

Table 2

Common Name	Scientific Name	Special Status	Habitat Type
Pacific chorus frog	<i>Pseudacris regilla</i>	None	Many habitats near water
Western fence lizard	<i>Sceloporus occidentalis</i>	None	Wide range
Rufous-crowned sparrow	<i>Aimophila ruficeps</i>	None	Rocky areas
Grasshopper sparrow	<i>Ammodramus savannarum</i>	BSSC-2 nd priority ¹	Grasslands
Red-tailed hawk	<i>Buteo jamaicensis</i>	None	Open, semi-open country
Anna's hummingbird	<i>Calypte anna</i>	None	Oak, riparian woodland, scrub
Lesser goldfinch	<i>Carduelis psaltria</i>	None	Riparian, oak woodlands
House finch	<i>Carpodacus mexicanus</i>	None	Wide habitat range
Turkey vulture	<i>Cathartes aura</i>	None	Open country, oak woodland
Peregrine falcon	<i>Falco peregrina</i>	SE ²	Nests on cliffs
American kestrel	<i>Falco sparverius</i>	None	Open, semi-open country
Barn swallow	<i>Hirundo rustica</i>	None	Open country, farmyards
Loggerhead shrike	<i>Lanius ludovicianus</i>	CSC ³	Open areas with dense shrubs for nesting
Cliff swallow	<i>Petrochelidon pyrrhonota</i>	None	Urban, open areas near water
Rock wren	<i>Salpinctes obsoletus</i>	None	Rock outcrops
European starling	<i>Sturnus vulgaris</i>	None	Agricultural, urban
Violet-green swallow	<i>Tachycineta thalassina</i>	None	Woodlands, meadows
Mourning dove	<i>Zenaidura macroura</i>	None	Open, semi-open country
Deer mouse	<i>Peromyscus maniculatus</i>	None	All dry land habitats
California ground squirrel	<i>Spermophilus beecheyi</i>	None	Grasslands
Valley pocket gopher	<i>Thomomys bottae</i>	None	Variety of habitats
Red fox	<i>Vulpes fulva</i>	None	Forest and open country

Appendix C

Below are the comments and responses to issues raised at the City Planning Commission meeting (9/27/06). Most of the issues related to minor changes in the language used or to modification of graphics. Only the item in Section 5: Implementation; Specific Tasks, Years 1-2 relating to the northeast trail will result in a substantive change in Plan implementation. City staff will monitor conditions on the northeast side of the Reserve for at least two years prior to undertaking any development thereof. In the meantime, however, staff will work with the developers of the Lawrence Drive project to identify a trail route connecting to the Ridge Trail to provide an appropriate access into the Reserve from that location that directs users toward the ridge. Further consideration of the balance of the northeast trail would return to the Parks and Recreation Commission prior to taking any further action on that route.

Staff Response to Comments Received at the Planning Commission Meeting 9/27/06

1.1 Comment

Commissioner Ashbaugh – Please include a topographic map.

1.2 Staff Response

Concur.

1.3 Proposed Change

A USGS map of appropriate scale will be included in the final version of the document.

2.1 Comment

Commissioner Christianson – Bicycle route discussion refers to both 1993 and 1997 Bicycle Plan. Please clarify. Also, is it the intent to install Class I bikeways?

2.2 Staff Response

Staff will reference the most recent City Bicycle plan. Also, it is not the intent to have paved routes for all routes open to bicycles. Paving will be only on the proposed connection to the Damon-Garcia Sports Complex, and on the existing access road to the Edna Saddle Water Tank.

2.3 Proposed Changes

The above corrections will be included in the final version of the document.

3.1 Comment

Commissioner Stevenson – Questioned if more recent archeological work had been done.

3.2 Staff Response

During the planning for the Stoneridge project the Reserve had been surveyed by archeologists, and the only site within the Reserve that was considered to be of archeological significance was the stone cistern. It was therefore felt that the survey done at that time was still valid.

3.3 Proposed Changes

None.

4.1 Comment

(Several Speakers). Opposed to NE Trail, due to visual impacts, possible conflicts with wildlife, and erosion problems. The Ridge Trail is the real destination.

4.2 Staff Response

Staff has observed evidence of use on the NE side of the ridge, and expects this type of use to continue and intensify, especially when the adjacent private property at the end of Lawrence Drive is built, since it is required to have a neighborhood access to the Reserve. It is therefore appropriate to plan for such use and direct foot traffic rather than have it form on its own, which may not be the best location from a variety of standpoints. However, this is clearly tied in to the Lawrence Drive project, whose timing is uncertain.

4.3 Proposed Changes

Staff will modify the proposal to be for continued study of the NE trail alignment and for realignment of the access from Lawrence Drive to “angle” uphill to more quickly reach the Ridge Trail, consistent with proper trail construction standards (i.e., 12% grade or less). Staff would return to the Parks and Recreation Commission no sooner than Year 3 for evaluation of further work on the NE Trail prior to initiating such work. Language in Section 5, Implementation: Specific Tasks will be modified for Years 1-2 to reflect further study, and to Years 3-4 to reflect possible reconsideration of the Trail during that time period. Also that language will be amended to clarify the location of a trail from the end of Lawrence Drive to the Ridge Trail when the Lawrence Drive project is approved.

5.1 Comment

(Several Speakers). Fire hazard is a concern. The proposed 20 foot buffer is not large enough, and livestock grazing should be continued. It was also questioned as to who was responsibility for the cutting of the firebreaks.

5.2 Staff Response

Mowing or weed-whipping of a 20 foot buffer at the end of the growing season where the Reserve adjoins developed property is consistent with City practices on other open space lands. Livestock grazing has been permitted at SHNR as an accommodation to the neighboring landowner as there is no fence separating the properties and to install one is not desirable. When the Margarita project gets underway, it is expected that the livestock grazing operation will cease, and it is not practical to continue it on only the steep, rocky, low productivity lands of the Reserve. Staff will double check on the responsibility for fire hazard abatement on the perimeter of the Reserve.

5.3 Proposed Changes

Responsibilities for fire hazard abatement will be clarified in Section 5, Wildfire Preparedness Plan.

6.1 Comment

(Several Speakers). The potential bicycle connection to the Bridge Street project is unnecessary: Connection can be made a few hundred feet further north.

6.2 Staff Response

Concur.

6.3 Proposed Changes

A specific task in Section 5 will be added to identify the connection to the Bridge Street project as pedestrian only, and the connection to Woodbridge Street as the bicycle route.

7.1 Comment

A steep “short cut” adjacent to homes on Sendero Court is a problem: it should be closed and foot traffic routed to the formal trailhead, which is only a short distance away.

7.2 Staff Response

Staff will evaluate this unauthorized trail

7.3 Proposed Changes

Closure or realignment of this trail, if warranted, will be included in the Specific Tasks for Years 1 and 2.

8.1 Comment

Two citizens spoke in favor of the access from Lawrence Drive, stating it had been used for many years informally and was recently cut off by the property owner.

8.2 Staff Response

Staff has anticipated that such an access would be created at the end of Lawrence Drive.

8.3 Proposed Changes

This will added as a specific task in Section 5: Implementation: Specific Tasks for Years 1 and 2 as it is anticipated that the Lawrence Drive project may be completed within that timeframe.

9.1 Comment

The Conservation Plan should reference the Conservation and Open Space Element of the General Plan.

9.2 Staff Response

Concur.

9.3 Proposed Changes

Appropriate reference to the Conservation and Open Space element will be made in the final document.

10.1.Comment

The South Hills have been closed to bicycles for years. Why are they suddenly being opened up to them?

10.2 Staff Response

Certain bicycle connections are called for in City planning documents. Bicyclists are using certain routes within the open space. The bicycling community has

requested that such use be allowed within the open space. Staff feels that allowing bicycle use on existing service roads within the open space (some of them paved), and on the connection to Woodbridge Drive, will not significantly affect the character of the site.

10.3 Proposed Changes

See notes in 2.1 to 2.3 above.

11.1 Comment

Do not plant trees, the soils are not conducive to such planting.

11.2 Staff Response

Certain areas of and deeper soils within the open space are conducive to tree planting: these include the area near the Woodbridge Street access point and the constructed wetland near Stoneridge Park. Planting of suitable species is proposed in these areas only.

11.3 Proposed Changes

None.

12.1 Comment

Clarify access points, especially where derived from a document or plan other than the Conservation Plan. Planning for areas outside of open space lands should not dictate open space planning.

12.2 Staff Response

Staff feels that the Bridge Street and Lawrence Drive accesses are logical accesses that will improve accessibility to the open space, and are called for in City planning documents. No other new accesses are proposed or anticipated at this time.

12.3 Proposed Changes

See notes in 4.1 to 4.3 above.

13.1 Comment

Under specific tasks, years 1 and 2, add Monitoring, Removal of Livestock, and installation of trail signage.

13.2 Staff Response

Concur.

13.3 Proposed Changes

These tasks will be included in Years 1 and 2.

14.1 Comment

In the initial study, Item “a” under Land use and Planning and Item “c” in Biology conflict with the Conservation and Open Space element.

14.2 Staff Response

Staff does not agree that the proposed conservation plan conflicts with the Conservation and Open Space Element.

14.3 Proposed Changes

None.

A public meeting was held to introduce the conservation plan to the public on February 14, 2006 and written comments have been received regarding the plan as well. A summary of these comments and suggestions are listed below.

- **No public road**
- **Keep visual impacts of fences to a minimum**
- **Encourage volunteer organizations for hikes, upkeep, and improvements**
- **Have restricted access to the radio tower hill**
- **Consider trail expansion south to Crystal Springs property (easement)**
- **Consider active and passive recreation interaction**
- **Keep improvements simple and low-key**
- **Have reasonable/safe access during wet conditions**
- **Access road from water tank be extended to Damon Garcia Sports Complex for bicycle commuting and recreational use.**
- **Address erosion and accessibility as access road crosses the two drainages**
- **Keep revegetation from local stock (cuttings or seeds)**
- **Weeds gaining foothold in the “wetland restoration area”**
- **Establish effective monitoring of uses and non-native plant encroachment**
- **Carefully incorporate access from Lawrence Drive; seep grade and erosion concerns**

Appendix D

RESOLUTION NO. 9860 (2006 Series)

**A RESOLUTION OF THE CITY COUNCIL
OF THE CITY OF SAN LUIS OBISPO ADOPTING THE
“CONSERVATION PLAN FOR SOUTH HILLS NATURAL RESERVE”**

WHEREAS, the City of San Luis Obispo has adopted policies for protection, management, and public use of open space lands acquired by the City; and

WHEREAS, the City of San Luis Obispo has acquired and manages eleven open space areas totaling approximately 2,500 acres, including the 130 acre South Hills Natural Reserve; and

WHEREAS, the City Council desires to have the policies for management of City-owned open space lands applied in an appropriate and consistent manner; and

WHEREAS, the Planning Commission, Parks and Recreation Commission, and the general public have commented upon the plan as it has moved through a Council-directed approval process, and the plan reflects those comments.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of San Luis Obispo hereby:

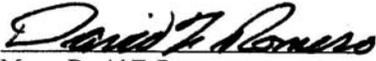
1. Finds that the implementation of the Conservation Plan as presented to the City Council this date, and as mitigated, will not have a negative impact on the environment; and
2. Adopts as City policy the “Conservation Plan for the South Hills Natural Reserve” as presented to the Council this date, including applying the formal name of South Hills Natural Reserve to the site; and
3. Directs the City Administrative Officer to undertake all actions necessary and appropriate to carry out this resolution.

On motion of Council Member Carter, seconded by Council Member Brown, and on the following roll call vote:

AYES:	Council Members Brown and Carter and Mayor Romero
NOES:	Council Member Settle and Vice Mayor Mulholland
ABSENT:	None

The foregoing resolution was adopted this 5th day of December 2006.

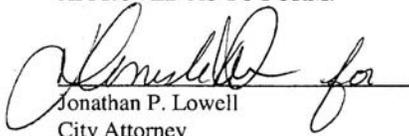
R 9860


Mayor David F. Romero

ATTEST:


Audrey Hooper
City Clerk

APPROVED AS TO FORM:


Jonathan P. Lowell
City Attorney