Wildlife of Old Zoo, Griffith Park
Los Angeles, California

FINAL

View northeast of Spring Canyon (Old Zoo is just below center of photo)
D. Cooper, March 2010

Prepared for:

Friends of Griffith Park

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SUMMARY

We report on the wildlife of Old Zoo, Griffith Park, the site of a proposed outdoor amphitheater set within a significant natural area, lower Spring Canyon. Since 2007, the Griffith Park Natural History Survey has been conducting surveys of plants and wildlife in the park, and in spring 2014, additional visits focusing on birds of the Old Zoo area were conducted. Data on birds is also available from online sources (e.g., www.eBird.org) which were also consulted. From these data, we find that the Old Zoo area may support at least two California Native Plant Society (CNPS) rare plants, is directly adjacent to areas with very high plant diversity, supports some of the highest bat diversity in the park and, likely, in the eastern Santa Monica Mountains), is a known usage area for both bobcat and gray fox, and includes breeding habitat for around 40 species of native birds (see below), including three raptors (Red-tailed Hawk, Cooper's Hawk and Great Horned Owl). Like other heavily used areas of the park where natural communities have been altered, the immediate Old Zoo site is lacking in certain resident scrubland birds and other wildlife that are readily found just outside its borders; however, many woodland species utilize the oaks and other tree species at Old Zoo, and it remains a rich and productive area for the park's wildlife. This represents the first analysis of the fauna of the Old Zoo.

INTRODUCTION

Griffith Park is one of the largest and oldest parks in the U.S., and was dedicated as a Historic-Cultural Monument by the city of Los Angeles (by a 15-0 vote) on January 27, 2009. It protects a large percentage of the open space in the eastern Santa Monica Mountains. Also, most of Griffith Park has been designated a "Sensitive Environmental Area" by the Los Angeles County Department of Regional Planning since the early 1980s. Located on the eastern flank of the park, the "Old Zoo" operated as the Griffith Park Zoo between 1912 and 1966, when the much larger (and current) Los Angeles Zoo was opened a short distance to the north, also within the park's borders (Figure 1). Today, remnants of the Old Zoo include the cement enclosures built into the hillsides, some still with original iron bars, as well as the large, circular grassy area in the center of the zoo site that is now used as an occasional picnic and rest area for park visitors. Access to the lawn and old animal enclosures is via a short but steep walk up a pathway from a lower picnic area. A paved access road, also used as a parking lot, extends west from Griffith Park Dr. to approach the eastern edge of the Old Zoo site, ending at the start of a paved footpath running uphill to the main lawn. All of the Old Zoo area falls within the "wilderness area" per the Historic-Cultural Monument.

In early 2012, the city began discussing plans for a major stage to be constructed at the Old Zoo site. According to the prepared Mitigated Negative Declaration (MND) obtained by community groups, the project would be implemented in phases. In addition to the stage and a backstage within the picnic area itself, the project description includes night lighting, sound amplification, and other potential disturbance. In order to accommodate American Disability Act (ADA) standards, a 4-section bridge would be constructed, along with ADA pathways connecting it to the stage and audience areas. Parking lot improvements, lighted pathways and rest room upgrades are also planned. Per the MND, only conceptual designs are available.

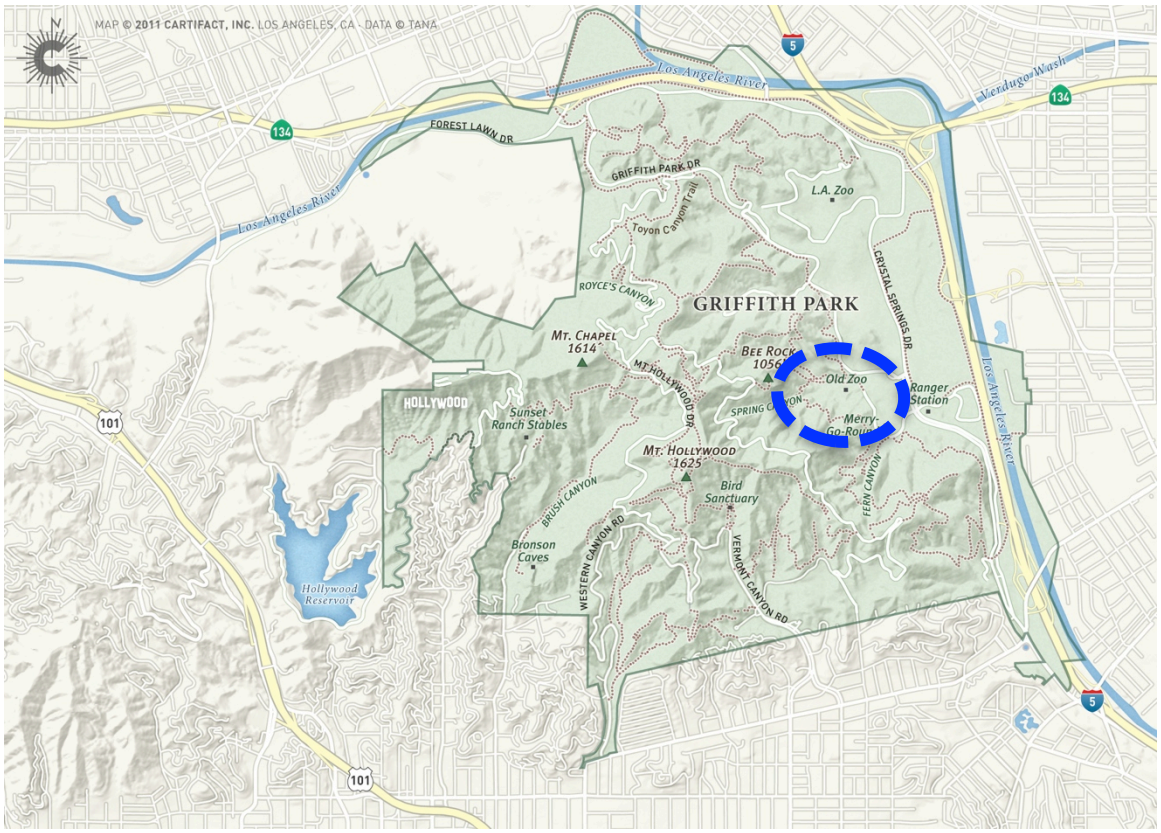

Figure 1. Relief map of Griffith Park, showing general location of Old Zoo (blue dashed oval). Map courtesy of Cartifact, Inc.

Natural Setting

The Old Zoo area represents the lower portion of Spring Canyon, one of a handful of perennial streams in the park. Spring Canyon drains slopes on either side of Bee Rock, located on the northeast shoulder of Mt. Hollywood, and then is directed to flow through a culvert as it passes underneath Griffith Park Dr. and then east into the Los Angeles River. For this reason, it should be considered a short, but potentially significant tributary of the Los Angeles River, and one of the farthest-downstream drainages to feed into the river before the start of the coastal plain of the L.A. basin near downtown Los Angeles.

Spring Canyon, like most of Griffith Park's drainages, has been highly impacted in this downstream section, which is roughly encircled by the "Old Zoo Trail", a dirt fire road that serves as a popular walking path, linking Fern Canyon to the south with Mineral Wells to the north. Upstream of this trail, Spring Canyon splits into a main/south fork, passing along the south face of Bee Rock, and a drier north fork, which climbs northwest and runs along the north side of Bee Rock. While the main fork of Spring Canyon is rather undisturbed, accessed via a narrow, steep footpath, the north fork has been extensively modified by the construction of a series of check dams and small debris basins, with most of the native shrub and tree vegetation intermittently cleared, presumably for flood control. In addition, Bee Rock Trail runs alongside the north fork, allowing for more human use.

By the time Spring Canyon reaches the Old Zoo site, it has been transformed into a more artificial drainage, with masonry and river rock tracing the main creek channel, surrounded alternately by lawn (at upper end of Old Zoo) or more natural oak woodland vegetation (lower end of Old Zoo). Mature oak woodland associated with this drainage dominates the slope north of the Old Zoo site (and continues upstream along the main/south fork of Spring Canyon, and more arid oak woodland mixed with chaparral is found south of Old Zoo. To the north, a mix of chaparral and coastal sage scrub on the hillsides has been extensively planted with (non-native) eucalyptus, presumably dating back to the early 1900s when slopes in most of the park were planted with eucalyptus and pines and irrigated, reportedly in an attempt at discouraging fire.[1] A diverse array of non-native plantings have persisted in the vicinity of the former animal enclosures at Old Zoo, as well as within the main lawn here, and more continue to be planted (including native coast live oaks *Quercus agrifolia*, but also non-native trees such as deodar *Cedrus deodorus*).

Human usage of the Old Zoo area is imperfectly known. Using wildlife cameras, we estimated 500+ trips per day by hikers, dog-walkers and joggers along each of the more well-used paths at nearby Fern Dell during summer/fall 2013; usage is obviously lower at Old Zoo, but hikers are frequently seen using the Old Zoo Trail, and walking around the main lawn area to access the trail system.

Ecologically, most of Griffith Park, including Old Zoo, is essentially a lower-foothill site in coastal southern California, with elevations ranging from near 100 meters above mean sea level (MSL) along the Los Angeles River (northern and eastern boundary) up to just over 500 meters MSL atop several peaks along a central ridge. The park features numerous steep seasonal drainages flowing down from ridges, a few of which have running water year-round (Figure 1). Daytime temperatures are hot and dry from late spring through fall, with cooler periods in late winter; average low/high temperatures in May are 58°/75° F, and 48°/69° F in December (late summer temperatures, at least on ridges, frequently approach and occasionally exceed 100° F)[2]. Most precipitation (from Pacific storms) falls in January and February, and averages around 15 inches per year (though many years are much drier). Graded fire roads and informal footpaths form trails, and provide access the majority of the entire park.

Habitat and Vegetation

The natural communities of Griffith Park have only recently been formally described and mapped (Melendrez 2004, Keely and Sawyer-Wolf 2006, AIS 2007, Cooper and Mathewson 2009), the majority of which are dominated by chaparral and scrub. The vegetation at Old Zoo is notable for several reasons: it is one of the most extensive and intact oak woodlands in the park, oak woodlands having been widely converted to picnic areas, golf courses, and other uses in the past. The woodland is augmented with several riparian elements, such as

[1] It has long been assumed that natural scrub and chaparral is a fire risk, and that grass and trees isn't, which has resulted in the removal of scrub and its replacement by irrigated vegetation; of course, when this irrigation stops for various reasons (e.g. ,broken pipes, water cost), the dried grass and weeds and drying trees make fire (and, in particular, ignition) risk incalculably worse.

[2] www.weather.com; data from Glendale, CA

willows (*Salix* spp.), mulefat (*Baccharis salicifolius*) and western sycamore (*Platanus racemosa*), indicating that groundwater is very close to the surface. Perennial flow of water begins just upstream of Old Zoo where Old Zoo Trail crosses the main stem (or south fork) of Spring Canyon; here, a lush growth of several species of ferns occupies wet rock faces, and just upstream lie some of the only known locations in the park for multiple species, including scarlet monkeyflower (*Erythranthe cardinalis*), wrinkled rush (*Juncus rugulosus*) and Fremont cottonwood (*Populus fremontii*).

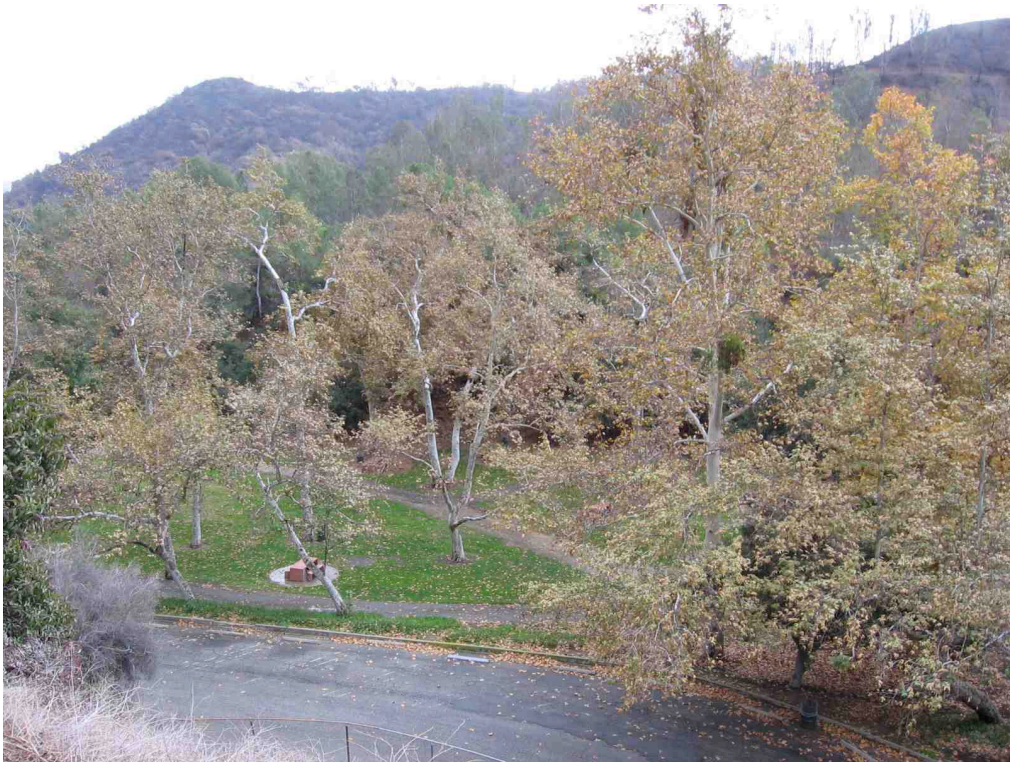

Figure 2. Picnic area just downstream of Old Zoo site, showing native sycamores along what was formerly lower Spring Canyon, and wildland areas of the park just beyond (D. Cooper, Dec. 2007).

Old Zoo is also directly adjacent to extensive, rugged wildland habitats in the center of Griffith Park (Figure 2) which in a recent analysis of rare plant distribution (Cooper 2011) was found to be among the richest survey blocks for rare plants parkwide. Many of these state- and locally-rare species are found within a few meters from the developed areas of Old Zoo, including valley cholla (*Cylindropuntia californica* var. *parkeri*) on the arid slope just north of Old Zoo and Humboldt lily (*Lilium humboldtii* var. *ocellatum*) along the canyon bottom. Most significant, the only Santa Monica Mountains occurrence of the rare endemic San Gabriel Mountains leather oak (*Quercus durata* var. *gabrielensis*) is known only from Spring Canyon (Figure 3); one collection was made at the base of Bee Rock in 1991, and another likely candidate was collected during this study at the southern edge of the Old Zoo site (Figure 4). Both Humboldt lily and the leather oak are considered "rare" by the California Native Plant Society, ranked 4.2 ("limited distribution"; see www.cnps.org).

Figure 3. Left: Ocellated Humboldt lily, photographed in Brush Canyon in June 2014 (M. Whitmire). Above: Probable San Gabriel Mountains leather-oak adjacent to Old Zoo, showing tomentum on the underside the leaf, and distinctive "rolled down" leaf edges; the only known location in Griffith Park.

Figure 4. Path leading to Old Zoo site from lower picnic area, showing oak woodland (at left) where likely San Gabriel Mountains leather-oak was recently discovered (D. Cooper, June 2014).

METHODS

Through the Griffith Park Natural History Survey effort, we have developed several sources of data for wildlife in Spring Canyon, including post-fire bird surveys conducted in 2007-2008 (D.S. Cooper, unpubl. data); bird data submitted to eBird (www.eBird.org); bat surveys conducted by Stephanie Remington at the Old Zoo in 2008 (30 May, 2 June, 3 Aug., 2 Sept., 1 Oct., and 3 Nov.; part of "Central Region" in Remington and Cooper 2009); mammal photographs from remote cameras; plus incidental observations of herptiles and butterflies by D.S. Cooper and T.C. Bonebrake since 2007.

Table 1. Summary of bird surveys by D.S. Cooper at Old Zoo, 2007-2014.

Date	Time
May 30, 2014	10:30 – 11:00 AM*
May 30, 2014	9:30 – 10:30
May 15, 2014	9:50 – 10:50 AM
Nov. 30, 2008	8:00 – 9:00 AM
May 22, 2008	8:00 – 9:00 AM
Apr. 15, 2008	8:00 – 9:00 AM
Feb. 8, 2008	10:00 – 11:00 AM
Jan. 7, 2008	8:00 – 9:00 AM
Oct. 16, 2007	8:00 – 9:00 AM
Apr. 10, 2007	8:00 – 9:00 AM

* Spring Canyon upstream of Old Zoo

RESULTS

The following is a summary of the known flora and fauna of the Old Zoo site.

Birds

Of the more than 100 species of birds known from the Old Zoo site and adjacent picnic area and trails (www.eBird.org), more than 30 are suspected of nesting regularly, as evidenced by pairs or singing individuals in known breeding habitat during April and May. Three species of raptors are suspected of breeding at Old Zoo, the Cooper's Hawk (*Accipiter cooperii*), Red-tailed Hawk (*Buteo jamaicensis*) and Great Horned Owl (*Bubo virginianus*).

Cooper's Hawk (*Accipiter cooperii*) One engaged in courtship display 10 April 2007. Nested in 2010 (2 young), with three birds present the next year on 11 April 2011 (J. Ray, eBird).

Red-tailed Hawk (*Buteo jamaicensis*) Pair in May 2014; Up to 5 birds year-round, no nesting notes from eBird.

Mourning Dove (*Zenaida macroura*) Small numbers in spring; likely breeds in area.

Great Horned Owl (*Bubo virginianus*) Two detected on Jan 16, 2011 (J. Ray, eBird).

Common Poorwill (*Phalaenoptilus nuttallii*) Likely resident on slopes above Old Zoo; one heard calling from Bee Rock on 3 Nov. 2008 (S. Remington, via email).

White-tailed Swift (*Aeronautes saxatalis*) Likely breeds at Bee Rock, above Old Zoo.

Black-chinned Hummingbird (*Archilochus alexandri*) Up to four in May 2014; likely nests in sycamores.

Anna's Hummingbird (*Calypte anna*) Up to four in April 2007 and 2008; possibly overlooked in May 2014.

Allen's Hummingbird (*Selasphorus sasin*) Present and common during first half of year (Jan. – June).

Acorn Woodpecker (*Melanerpes formicivorus*) Up to 12 individuals in May 2014; obviously a significant colony is resident in oaks and other trees in and around Old Zoo.

Nuttall's Woodpecker (*Picoides nuttallii*) Up to four birds (= 2 pr) present May 2014 (nesting observed by G. Hans June 2014).

Downy Woodpecker (*Picoides pubescens*) Irregularly recorded, but pairs have been seen in spring (e.g., Mar. 2008, DSC) and it may nest.

Pacific-slope Flycatcher (*Empidonax difficilis*) A single pair in 2007 and 2014, toward the upper end of the site where the canyon becomes more natural. This would make an ideal indicator species given its preference for native habitat.

Black Phoebe (*Sayornis nigricans*) Single pairs in 2007 and 2014, in picnic area/lawn habitat.

Ash-throated Flyatcher (*Myiarchus cinerascens*) 1-2 birds in 2008 and 2014, so possibly not breeding; would make an ideal indicator species given its preference for native habitat.

Hutton's Vireo (*Vireo huttonii*) Single bird singing May 2014 in upper/natural portion of site; would make an ideal indicator species given its preference for native habitat.

Western Scrub-Jay (*Aphelocoma californica*) Small numbers through spring; likely breeds.

American Crow (*Corvus brachyrhynchos*) Small numbers year-round.

Common Raven (*Corvus corax*) Apparent pairs; may nest in tallest trees or in crevices at Bee Rock.

Oak Titmouse (*Baelophorus inornatus*) Up to four during surveys, so possibly two pairs present; would make an ideal indicator species given its preference for native habitat.

Bushtit (*Psaltriparia minima*) Resident; possible family group in May 2014.

House Wren (*Troglodytes aedon*) Five detected in May 2014 (oddly, not in spring 2007-08); likely breeds in sycamore cavities (nesting observed by G. Hans June 2014).

Bewick's Wren (*Thryomanes bewickii*) Three in May 2014; year-round resident.

Blue-gray Gnatcatcher (*Polioptila caerulea*) One in May 2014 was in oak woodland upstream of Old Zoo site, where it may breed; would make an ideal indicator species given its preference for native habitat (mature chaparral).

Wrentit (*Chamaea fasciata*) Up to four in recent springs (= 2 pairs); would make an ideal indicator species given its preference for native habitat.

Western Bluebird (*Sialia mexicana*) Single pairs noted in April/May 2007 and 2014, nests almost exclusively in sycamores in park.

American Robin (*Turdus migratorius*) Common through spring, particularly on lawns.

California Thrasher (*Toxostoma redivivum*) Just 1-2 birds in April 2008/2014; would make an ideal indicator species given its preference for native habitat.

Northern Mockingbird (*Mimus polyglottos*) Common year-round.

European Starling (*Sturnus vulgaris*) Breeds in sycamores (6 in May 2014).

Phainopepla (*Phainopepla nitens*) Regular in May-June when breeding would be expected.

Orange-crowned Warbler (*Oreothlypis celata*) Common through spring; nesting pair observed in 2007 at upper edge of picnic area (DSC).

Spotted Towhee (*Pipilo maculatus*) Common year-round.

California Towhee (*Melozone crissalis*) Common year-round

Song Sparrow (*Melospiza melodia*) Fairly common (in low numbers) year-round; one or two pairs may nest in denser vegetation along stream.

Dark-eyed Junco (*Junco hyemalis*) Now common year-round, and nesting widely in park.

Black-headed Grosbeak (*Pheucticus melanocephalus*) Common through spring and summer.

Brewer's Blackbird (*Euphagus cyanocephalus*) Likely nests in picnic area/playground; not in native habitat.

Brown-headed Cowbird (*Molothrus ater*) Brood parasite present irregularly but likely breeds every year.

Hooded Oriole (*Icterus cucullatus*) Common through spring; nests in palms and sycamores.

Bullock's Oriole (Icterus bullockii) Common nester in sycamores in area, but records sparse, particularly in early spring when it should be on territory.

House Finch (*Haemorhous mexicanus*) Common year-round.

Lesser Goldfinch (*Spinus psaltria*) Common year-round.

House Sparrow (Passer domesticus) Common year-round, but like Brewer's Blackbird, only in picnic area/non-native habitats.

In winter, many additional species of birds arrive, and during spring and fall migration, many additional species may be observed as they migrate through the area.

Mammals

The Old Zoo site is notable for mammals for several reasons. For large/mid-sized mammals, including carnivores, it is one of the few areas where gray fox (*Urocyon cinereoargenteus*) has been detected in the park (other areas where recorded include the north slope of Mt. Lee and the current L.A. Zoo property) (Mathewson et al. 2008). It also appears to be a high-use area for bobcat (*Lynx rufus*), according to a graduate student conducting research here in the mid-2000s[3]. Studies of the isolated western gray squirrel (*Sciurus griseus*) population in Griffith Park revealed that Old Zoo/Spring Canyon lies between two known subpopulations of this species in the park (Cooper 2013), and thus could represent an important restoration area if animals were to be (re-)introduced here (currently, the eastern fox squirrel *Sciurus niger*, is very common here, pers. obs.). A survey of bat usage of the park in 2008 revealed that the "central area", which included Bee Rock, Spring Canyon and Old Zoo, had the highest bat diversity and overall detections of any area of the park (Remington and Cooper, in press), with big brown bat (*Eptesicus fuscus*), western red bat (*Lasiurus blossevillii*), hoary bat (*Lasiurus cinereus*), California myotis (*Myotis californicus*), canyon bat (*Parastrellus hesperus*), and Mexican free-tailed bat (*Tadarida brasiliensis*) all confirmed present. Several species were assumed to be roosting, if not breeding, in the trees and rock outcrops in and around Old Zoo.

Most remarkably, a credible, though second-hand report of a black bear (*Ursus americanus*) from 24 April 2012 was received via email (F. Martinez, 25 Apr. 2012), seen at close range during a night hike (with a "pen light") by five hikers near the confluence of Spring Canyon and the Old Zoo trail. A non-native species in the region[4], black bear has also been reported from the Stone Canyon area, and several animals have been killed or captured/relocated while trying to cross south into the Santa Monica Mountains from the Simi Hills near Westlake Village/Agoura Hills. Obviously, if a mountain lion (*Felis concolor*) can reach the park ("P22", resident since at least early 2012), a black bear certainly could.

Reptiles/Amphibians

Most of the herptiles known from Griffith Park have been observed in Spring Canyon, including some adjacent to the Old Zoo site. The ubiquitous western fence-lizard *Scelorporus occidentalis* is the most common, and Pacific tree frog *Pseudocris regilla* is almost certainly present in upper Spring Canyon or wherever water pools.

Southern Pacific rattlesnake (*Crotalus oreganus helleri*), Pacific gopher snake (*Pituophis cantifer cantifer*), striped racer (*Coluber lateralis lateralis*) and San Bernardino ringneck snake (*Diadophis punctatus modestus*) have all been noted along the Old Zoo Trail and/or in adjacent Spring

[3] Main areas in park with bobcat scat: Mt. Lee, Oak Cyn., Royce Cyn., Fern Cyn., and "above the Old Zoo" (= Spring Cyn.) N. Osborn, via email, 2 Jan., 2009).

[4] California grizzly, *Ursus arctos californicus*, was our local native bear, now considered an extinct subspecies of the more widespread grizzly bear complex.

Canyon, as have southern alligator lizard (*Elgaria multicarinata webbii*). Most remarkable was a juvenile arboreal salamander collected in December 2008 (deposited at Los Angeles Co. Museum of Natural History) found (by DSC) under a slab of oak bark along Spring Canyon just a few meters upstream of the Old Zoo lawn. Slender-salamanders *Batrachoseps* sp. have been observed under oak bark in the same area, in late winter after rain (Figure 5).

Figure 5. Slender-salamander, likely *Batrachoseps nigriventris*, photographed adjacent to Old Zoo 7 Dec. 2007, D.S. Cooper).

Western skink (*Plestidon skiltonianus skiltonianus*) and western toad (*Anaxyrus boreas halophilus*) have not been observed here, but they may be present, the latter likely using pooled water in the upper canyon.

RESTORATION RECOMMENDATIONS

Four areas in the vicinity of the Old Zoo appear to offer ideal opportunities for habitat restoration, as shown in Figure 6 and as summarized and enumerated below. Further analysis is required before implementation of these restorations and should include a review of the built and natural histories of the areas.

Figure 6. Illustration of potential restoration areas at the Old Zoo site.

1. Upper Spring Canyon

Spring Canyon is a semi-perennial stream (flowing year-round during normal rainfall years) that emerges from the steep eastern escarpment of Griffith Park and flows east along the north side of the Old Zoo site. Even in its upstream portion, it is heavily infested with non-native plant species, in particular sticky eupatory and smilo grass, with smaller occurrences of castor bean and other weeds (Figure 7). We recommend a dedicated effort to remove these non-natives, to allow native species to thrive again. As the site is well-irrigated naturally by streamflow, we do not recommend planting here.

Figure 7. Upper Spring Canyon showing sticky eupatory and smilo grass (D. Cooper, Aug. 2010).

2. "North Fork" of Spring Canyon

Upstream of the Old Zoo site, past flood-control efforts have result in a series of check-dams having been constructed along two small stretches of streambed, one in "main" Spring Canyon, and the other in the drainage immediately to the north of here, which I've called North Fork Spring Canyon (Figure 8). Here, native shrubs and trees were removed years ago (and regular removal may yet be ongoing), and the streambed excavated to form small debris basins, presumably with heavy machinery. These basins have since filled with silt, and now offer little flood control, and support little native riparian vegetation. Here we recommend removal of these check-dams and revegetation of the streambed, which is very short and clearly never experiences flows sufficient to warrant such extreme flood-control measures.

Figure 8. "North Fork" Spring Canyon showing unused check dams.

3. Lower Spring Canyon

The stretch of creek adjacent to the main Old Zoo lawn and upstream of the lower picnic area is one of the most impacted areas of the site, even though aesthetically it may resemble a normal oak-lined stream. Here, the streambed was replaced with cement and rock many years ago, reducing the permeability of what should be at least seasonally-moist soil, and seriously affecting natural riparian vegetation (Figure 9). Today, sparse willow and mulefat growth suggest that this section of the drainage could be transformed into a vibrant riparian ecosystem with at least partially removal of some of the cement, particularly along the actual streambed (the sides of the stream have no cement and appear more or less in a natural state).

Figure 9. Cement and rock streambed adjacent to Old Zoo.

4. Eucalyptus grove

Just north of the access road that approaches the Old Zoo site from the east is a slope of native coastal sage scrub and chaparral (Figure 10). This slope can support a spectacular wildflower display after wet winters, in particular a large population of the bright purplish-blue Canterbury-bells (*Phacelia minor*), and one of the few populations of the rare native cholla cactus *Cylindropuntia californica* var. *parkeri*. Decades ago, eucalyptus trees were introduced to the slope, as they were throughout the eastern half of the park (see Cooper and Mathewson 2009). We recommend immediate selective removal of the dead and dying trees, with gradual removal (over several years) of all the eucalyptus on this slope. As they are north of the parking area, they provide no shade for parked cars (unlike the native sycamores and California bay trees of the picnic area, which do), and their leaves and resins continue to slowly degrade the native scrub ecosystem here.

Figure 10. Typical "wildland planting" of eucalyptus on ridge near Old Zoo. Infestation of non-native grass in foreground is likely ripgut brome (*Bromus diandrus*), a remnant of understory clearing (for planting), combined with irrigation of eucalyptus trees.

LITERATURE CITED

AIS 2007. Mapping descriptions, USGS-NPS Vegetation mapping program, Santa Monica Mountains National Recreation Area. Report by Aerial Information Systems, Inc., 112 First St., Redlands, CA 92373 (submitted to SMMNRA, Thousand Oaks, CA).

Cooper, D.S. and P. Mathewson. 2009. Griffith Park Wildlife Management Plan (Final). Prepared by Cooper Ecological Monitoring, Inc. for the Los Angeles Dept. of Recreation and Parks. 22 January 2009. Available online at: http://www.griffithparkwildlife.org.

Cooper, D.S. 2011. Rare plants of Griffith Park, Los Angeles, California. Fremontia 38(4)/39(1):18-24.

Cooper, D.S. 2013. The distribution of the western gray squirrel (*Sciurus griseus*) in the Los Angeles Basin, California. Prepared for the Greater Los Angeles Zoo Foundation, January 4, 2013.

Keeler-Wolf, T. and J.M. Evans. 2006. Vegetation Classification of the Santa Monica Mountains National Recreation Area and Environs in Ventura and Los Angeles

Counties, California. Version 1-Association Level and Specific Alliances (Report submitted to the National Park Service, SMMNRA, Thousand Oaks, CA).

Mathewson, P., S. Spehar and D.S. Cooper. 2008. A preliminary large mammal survey of Griffith Park, Los Angeles, California. Bull. So. Calif. Acad. Sci. 107:57-67.

Melendrez Design Partners. 2004. Griffith Park Master Plan. 2nd draft. Available online at: http://www.lacity.org/RAP/dos/parks/griffithPK/masterplan2005/masterplan2005.htm.

Remington, S. and D.S. Cooper. (In press) Preliminary bat survey of Griffith Park, Los Angeles, California. Submitted to Southwestern Naturalist.