

MEMORANDUM

TO: Mr. John Mann, Waterfront Manager
City of Berkeley, Berkeley Marina
201 University Ave
Berkeley, CA 94710

DATE: 5 December 2014

FROM: Jim Martin
ENVIRONMENTAL COLLABORATIVE

SUBJECT: Draft Biological Resource Assessment Update
Off-Leash Dog Area at Cesar Chavez Park
Berkeley, California

As requested, I have prepared this draft updated Biological Resource Assessment (BRA) for the Off-Leash Dog Area (OLA) at Cesar Chavez Park in Berkeley, California. The OLA was officially established by the City Council for an approximately 17 acre area in 2000, after a trial period that began in 1997. The OLA is located in the central portion of Cesar Chavez Park, with the Natural Protected Area to the north, the Solar Calendar to the west, and the mowed area used for the annual Kite Festival to the south (see attached **Existing Conditions Map**).

In 1997 I prepared a Biological Assessment (Environmental Collaborative, 1997) for the 20 acre area originally contemplated for use as the OLA. The purpose of the 1997 Biological Assessment (BA) was to provide background information on existing conditions, evaluate the significance of potential impacts of off-leash dog use on biological resources, and make recommendations to minimize adverse impacts on existing habitat (see BA in **Attachment A**).

This updated BRA has been prepared to:

- Provide a review of the history and management practices undertaken since the City officially established the 17-acre OLA
- Reevaluate habitat conditions in the 17-acre OLA and surrounding area of Cesar Chavez Park
- Review concerns over safety risks posed by foxtails and other plant fruiting bodies
- Consider the effects of possible treatment options in addressing concerns,

- including safety risks and wildlife habitat values, and
- Evaluate options for addressing issues and updating vegetation management practices in the OLA

BACKGROUND

Summary of 1997 BA

The purpose of the 1997 BA was to provide background information on existing conditions in the proposed off-leash area, evaluate the significance of potential impacts of off-leash dog use on biological resources, and make recommendations to minimize adverse impacts on existing habitat (see BA in **Attachment A**). No sensitive biological resources were identified during preparation of the 1997 BA, but off-leash dog activity and future land management practices were considered to have a possible adverse effect on wildlife habitat values. Activities by dogs and humans are known to be disruptive to wildlife. When uncontrolled, dogs tend to instinctively pursue birds and other mammals, they follow scent trails or key to wildlife vocalizations, and dig up borrows and nests to investigate possible occupation by wildlife. The 1997 BA found that these activities could further degrade the limited habitat values of the OLA and surrounding lands, including the adjacent Natural Protected Area, if adequate controls were not implemented as part of the trial program. Excessive mowing and other practices to improve accessibility for dogs and humans were also of concern because they could eliminate protective cover for wildlife, further limiting habitat values of the OLA. And ensuring that the boundaries of the OLA was recognized in the 1997 BA as important to preventing further disturbance to wildlife as a result of possible illegal off-leash use outside the OLA.

To address these concerns over the effects of dog use on wildlife habitat values, the 1997 BA contained a number of recommendations that can be summarized as follows:

- **Limit the size of OLA** – The trial area of the original OLA was recommended to be 10 acres in size to reduce the extent of wildlife habitat directly affected by possible permanent off-leash dog activity and to help ensure designated boundaries and leash areas were respected.
- **Provide signage at major trail access points** – Installing signage at key access points into the park and the OLA was considered important to explain the sensitivity of wildlife and need to control dogs to prevent harassment.
- **Limit maintenance activities** – the activities done to minimize growth of foxtails and burs within OLA should be limited in extent and to prevent significant reduction in vegetative cover by
 - prohibiting mowing or disking of entire OLA
 - recommended treatment mowing in late spring either within 20 feet of major trails/roadways or in a defined two acre portion
 - mowing height preferably set between four and six inches of above ground surface to retain some grassland cover for wildlife

- additional mowing may be necessary in mid to late summer to prevent growth of invasive species establishment
- **Implement further controls** if excessive off-leash activity observed

The risks posed by foxtails and burs to dogs were recognized by the original Dog Use Task Force when the OLA was established as a trial program in 1997. But there was an understanding of the need to balance competing purposes in the park, including minimizing further loss of wildlife habitat values as a result of intensive mowing or other management activities considered to reduce the risks. The 1997 BA included recommended limits on maintenance activities that were intended specifically to minimize the growth of foxtails and burs within the OLA, as indicated above. The need for additional mowing was recognized as a possible management activity in the 1997 BA to prevent establishment and spread of yellow star-thistle and other late-flowering invasive species.

At the time the two acre treatment area seemed like a reasonable compromise in addressing the health risk without substantially compromising a large area of existing wildlife cover. This was done, however, as part of the pilot program and shouldn't be considered a hard and fast rule, or prevent consideration of other methods to address hazards, educate the public, and investigate management options.

Current Treatment Practices

The City has performed mowing activities in the park as part of maintenance (see attached **Current Mowing Treatment Map**). These consist of: routine mowing in the southern portion of the park, in areas that were previously irrigated turf, 2) seasonal mowing of the approximately two acre area of the OLA, and 3) periodic mowing along the perimeter trail to cut back sweet fennel (*Foeniculum vulgare*). As described by City staff, current mowing and treatment practices can be summarized as follows:

OLA – An approximately two acres north of the main entry to the OLA is mowed by Marina staff on either side of the trail/road that leads from the bulletin board to the top of the hill to the north. This is usually done in early spring and late fall. The exact timing of the spring mowing varies and is timed to begin at the end of the seasonal rains. In the past it has been during May or June. The fall mowing is timed to occur just prior to the start of the rainy season. Mowing of the hillside is difficult when soils are moist or saturated, and because the landscape tractor and attached flail mower can slip on the hillside. The equipment used is a John Deere tractor with an attached flail mower set at approximately 6 inches in height. The area is mowed north to south and south to north to prevent the possibility of the tractor rolling on its side. Occasionally the City forestry crew will deposit wood chips within the OLA, and Marina staff will spread them on bare areas to assist in preventing erosion. Trash is collected from the cans located in the OLA on a weekly basis.

Kite Festival Treatment Area - Usually in mid-July, Marina staff will mow the

open areas in the southern portion of the park to prepare the areas for the Kite Festival (the last weekend in July). This area was previously maintained as irrigated turf and tends to have a lower plant species diversity than found in the more natural areas to the north. And mowing is set to a lower height under six inches, typical of turf maintenance practices.

Fennel Treatment - Once or twice a year usually in July or early August, Marina staff mow the margins of the perimeter trail adjacent to the Natural Protected Area and along the north shore of the park to cut back sweet fennel where it is growing over the path and limits access to the benches on the interior side of the perimeter path. The mowing is performed with a flail mower to an approximately six foot width along the perimeter path.

Risks to Dogs from Foxtails and Burs

Given the on-going concerns over risks to dogs since the OLA was established, City staff requested that the original 1997 BA be updated, and that options for addressing these risks explored. Certain non-native species form fruiting bodies in spring and summer with properties that pose a risk to dogs and nuisance to humans. Of particular concern are the awns of foxtails such as *Hordeum* spp. that are barbed for dispersal, and can lodge in a host species, entering through openings and skin. And sometimes requiring expensive surgeries and other treatments to remove the foreign body. Seed of other non-native weedy species also contain hardened tips or burs that can also lead to risks and be problematic for dogs and humans. Invasive species that can pose a risk to dogs in the OLA include wild oats (*Avena* spp.), bromes (*Bromus* spp.), foxtail and barley (*Hordeum* spp.), and bird's foot trefoil (*Lotus corniculatus*), among others.

The non-native grassland species found in the OLA are common throughout California, and typically dominate areas where native grasslands have been displaced. Seed set varies depending on temperatures, rainfall levels and other variables, but typically these species become most problematic in late spring through early summer (generally from April through August). If the fruiting bodies have matured enough, they continue to be a risk to pets even after they've been mowed, making timing an important factor in effective management. But even with intensive mowing, these adaptable species tend to continue to mature and pose a risk to those using natural areas.

Given their adaptability and invasive characteristics, it is virtually impossible to completely eliminate the risk the fruiting bodies of these species pose to dogs without denuding an area, or replacing existing non-native grassland cover. And the non-native grassland would remain in surrounding areas that have not been treated, where seed could blow into the intensively managed area and continue to pose a risk.

METHODS

This updated BRA was prepared through the review of available information, including the 1997 BRA, inspections of the OLA and surrounding areas of the park, and

consideration of management practices used in open space areas to address risks and improve habitat values. Field inspections were conducted on July 22, July 25, August 14, and September 17, 2014. During the field inspections, the perimeter of the OLA was walked, with observations on wildlife and dog activity noted. During the field inspection on July 25, 2014, an inventory of plant species observed in the OLA was prepared (see **Attachment B**). Information on current and past management practices in the OLA and surrounding areas of the park were provided by City staff.

Following a review of the available background information and familiarization with existing conditions in the OLA obtained during the field reconnaissance surveys, options for possible management alternatives to address foxtail risks and effects on wildlife habitat values were considered with City staff. This updated BRA was prepared to summarize the findings and recommendations related to the various options for possible management alternatives. Presumably these will be refined into an updated management plan for the OLA once a preferred alternative is selected by the City.

HABITAT CONDITIONS

Based on the results of the field reconnaissance surveys, habitat conditions in the OLA have remained largely unchanged since the 1997 BRA was prepared. As was the case back in 1997, the majority of the OLA is dominated by non-native grassland and ruderal (weedy) species. Species composition appears to be very similar, although a number of woody invasive species have spread over large areas of the OLA and are replacing grassland habitat, particularly sweet fennel. Sweet fennel is also a common problem along the perimeter trail and other locations in the park because it grows tall and crowds out lower growing grassland species. It eventually can create dense stands that are impenetrable to most wildlife, and have very little habitat value to native birds and other wildlife.

Areas of grassland in the OLA are dominated by non-native grasses and forbs, including those that pose a risk to dogs. Predominant non-native grassland species include: wild oats, bromes, foxtails, Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*), orchard grass (*Dactylus glomerata*), bird's foot trefoil, knotgrass (*Polygonum aviculare*), Italian ryegrass (*Festuca perennis*), white-stemmed filaree (*Erodium moschatum*), and prickly ox-tongue (*Helminthotheca echioides*), among others. A few native grass and forb species are present within the OLA, including meadow barley (*Hordeum brachyantherum*), coast tarweed (*Madia sativa*), coast gumplant (*Grindelia stricta*), and yarrow (*Achillea millefolium*). And native coyote brush (*Baccharis pilularis*) shrubs continue to spread through the OLA, together with scattered non-native invasive shrubs such as cotoneaster (*Cotoneaster* sp.) and French broom (*Genista monspessulana*).

The grasslands of the OLA continue to provide habitat for wildlife, primarily a variety of bird species, but small mammals as well, including California ground squirrel and Botta's pocket gopher. Bird species observed included native song sparrow, savannah sparrow, white-crowned sparrow, American goldfinch, rock dove, mourning dove, red-winged blackbird, western meadowlark, black phoebe, American crow, and non-native

European starling, house sparrow, and house finch. A number of predatory raptors such as American kestrel, white-tailed kite, and northern harrier may occasionally forage in the open grasslands, and flyovers of gulls, shorebirds, herons, egrets and other aquatic dependent birds is not uncommon. And a pair of wintering burrowing owl tend to return each year to the northeast shoreline of the park, occupying ground squirrel burrows near the perimeter trail, although this species has not been observed in the OLA.

The field inspections conducted in 2014 indicated that the vegetative cover in the OLA remains similar to conditions observed in 1997, and that the OLA continues to provide habitat for grassland dependent wildlife. The most notable changes were the degree to which the southwestern portion of the OLA has been largely denuded because of trampling and frequency of use by humans and dogs, together with the margins of heavily used foot paths, eliminating wildlife habitat values. Where birds were observed in grassland cover, they tended to be some distance from the trails, or flushed as the dog and human trail users approached. This could be the result of a combination of factors, including the response by the bird to a perceived threat, acclimation to typical trail use by visitors and preference for areas away from established trails where use by dogs and humans is lower, and less interest in the heavily used trail corridors and dog congregation area because they lack the cover and foraging opportunities that would attract birds.

TREATMENT OPTIONS AND CONSTRAINTS

Several options were considered to address the increasing concerns over foxtail risks to dogs and balancing management practices to minimize a further reduction in wildlife habitat values. As discussed in the 1997 BA, retaining vegetative cover is important for avoiding and minimizing a reduction in wildlife habitat values of the natural areas of the park, including the OLA. Basic needs of wildlife include food, water, cover and space, which together provide habitat. When vegetative cover is routinely removed it typically reduces the value of the habitat for wildlife, with areas having little or no vegetation generally considered to have low or no habitat values. Reducing or eliminating the vegetative cover removes the screening it provides as protection from predators and reduces the plant forage, available seed and the insect populations important as food sources for birds and other wildlife. And routine disturbance tends to encourage establishment and spread of problematic invasive species. Any management practices must be carefully considered and implemented to avoid compromising existing habitat values and fostering conditions that actually favor undesirable species, including foxtails.

Mowing and Other Mechanical Treatment

Mowing and weed whacking are common management practices used to reduce cover and treat threats of invasive species. But must be carefully timed to be most effective in reducing the seed set of target species. For the OLA, this includes timing to limit seed production of the foxtails and bur species of concern to dog owners, as well as the invasive species such as fennel that are continuing to spread through the park and compromise grassland habitat values. Mowing can reduce the risk of foxtail exposure by

reducing seed set, but also tends to reduce habitat values for wildlife. Increased frequency of mowing tends to further reduce wildlife habitat values unless minimum cover is retained and sensitive resources are avoided. The shorter the height (mower set for under 3 inches) and the greater the frequency of mowing, the more likely the flowering heads of foxtail species will be cut. But this increased intensity of mowing also leads to a reduction in wildlife habitat values and increases the potential for further establishment of invasive species if the mowing regime is ever interrupted or curtailed. Mowing alone simply reduces seed set for the invasive annuals and over time these areas will tend to have reduced plant cover unless revegetated with other more desirable species. Or will favor opportunistic weedy plant species that can alter their growth habits to allow successful reproduction and seed set, even in areas that are routinely mowed.

Surface Treatment

In addition to mowing, other treatments to address the risk of foxtails include replacing existing groundcover species, either to prevent establishment of vegetative cover completely or to provide for more desirable species that pose less of a risk to dogs. Installing decomposed granite, gravel, and bark chips or other mulch products are frequently used in high use areas where trampling prevents or limits establishment of vegetative cover. Weedy species tend to occur along the margins of these treated areas as a result of the disturbed conditions, and reapplication is typically necessary depending on intensity of use, soil conditions, and other factors. And bark chips and other surface applications can be a challenge to navigate over until they become compacted or the bark chips are forced to the edge of heavy use trails, as has occurred in the past in the OLA. Replacing vegetative cover with bark chips and other treatments limits the value of the treated area for wildlife, but may address the majority of concerns in high dog use areas. This could include the concentrated activity area in the southwestern portion of the OLA and the margins of well-established trails.

Selective Revegetation Treatment

Revegetation with a more desirable plant cover that poses less of a risk to dogs is also an option that could be combined with other treatment practices. But replacing the existing non-native grassland cover would be an expensive and challenging exercise. Some native grass species, such as wild rye (*Elymus triticoides*), would be suitable for installation in the OLA and other areas of the park. This species spreads vegetatively by stolons and can form relatively dense stands when properly managed. But establishing a more desirable plant cover in the OLA would require expensive on-going treatment and management, and may have less than desirable results. A major challenge in establishing native grasslands is competition with invasive species, including the problematic foxtail species. Even if a relatively high percentage of native grass species could be successfully established, it is highly unlikely that the foxtail species and other non-native species could ever be completely eliminated, and some degree of risk to dogs would remain. And the effort spent by the City in establishing native cover would be for a location where dog use compromises wildlife habitat values, rather than the

adjacent Natural Protected Area where treating invasive species and establishing native plant cover would be of greater benefit to wildlife. But a pilot revegetation treatment program could be established by the City and monitored to determine success and whether it makes sense to expand the revegetation efforts to other parts of the OLA and surrounding areas of the park.

POSSIBLE ALTERNATIVES FOR OLA

As part of this updated BRA, four draft alternatives for the OLA were developed for consideration by the City and public in providing a range of options to address the risks posed by foxtails to dogs and balancing the effects that additional management treatments may have on wildlife habitat values. These alternatives are presented as a starting point for consideration by the City and public in evaluating options to address on-going concerns. The four alternatives are summarized below with regard to their management requirements and habitat affects, and consist of the following:

- No change in Management Alternative
- Intensive Mowing Alternative
- Increased Management Alternative
- Reconfigured Footprint Alternative

No Change Alternative

This alternative would basically involve no changes in current management practices in the OLA (see **No Change Alternative Map**). The boundary of the OLA would not change, and current mowing and occasional surface treatment with bark chip installation would continue. Details of this alternative include the following:

- No changes in current management practices to OLA
- Mowing continues over approximately 2 acres on flat area slopes near the southern gathering area
- Health risk to dogs and visitors remains the same during late spring/summer with no additional treatment
- Wildlife cover remains intact, but no specific treatment would be provided to remove invasive species or establish native groundcover

Intensive Mowing Alternative

This alternative would involve routine mowing over the entire 17 acre OLA through the spring and summer months (see **Intensive Mowing Alternative Map**). Equipment access limitations during the wet season may delay the initial treatment until soils have dried enough to support the tractor and flail mowing operation. Mowing would continue at sufficient intervals to cut maturing foxtail seed heads, and could be adjusted to capture low flowering plants, as needed. Details of this alternative include the following:

- Routine mowing would be performed over the entire 17 acre OLA through the spring and summer months
- Intensive mowing treatment can reduce the spring/summer foxtail risk significantly but will not eliminate the risk
- Reduces and eventually could eliminate any cover for wildlife species which currently frequent area, including birds and small mammals
- Eliminating cover for wildlife indirectly affects the value of the adjacent Natural Protected Area
- Increases likelihood for further establishment and spread of weedy species that are adapted to mowing or that would invade once mowing is curtailed for any reason

Increased Management Alternative

This alternative would provide increased management treatments in the OLA to both reduce the foxtail risks to dogs and improve habitat conditions for native wildlife through limited native revegetation (see **Increased Management Alternative Map**). Trail Management Zones (TMZ) would be established along 20 to 40 foot widths of perimeter trails where the majority of off-leash activity tends to occur, with the focus of reducing risks of foxtails and burs. Within the TMZ, treatment options would be implemented to control and reduce the abundance of foxtails and burs, including increased mowing during critical periods, placement of bark chips, and revegetation with desirable native species. A Pilot Revegetation Area (PRA) would also be established where native perennial grassland cover would be encouraged as a way to control invasive species, such as sweet fennel and foxtails. **Cross-Section A-A'** shows a cross-section of the suggested TRA and PRA treatment options. Details of this alternative include the following:

- Establish a Trail Management Zone (TMZ) along a 20 to 40 foot width of perimeter trails in the OLA to reduce the risk of foxtail and bur hazards to dogs
- Treatment options in the TMZ include bark chip placement, increased mowing or weed whacking during critical periods, and grassland species controls through increased limited mowing and replacement with desirable species, where feasible.
- Establish a Pilot Revegetation Area (PRA) to control or eliminate invasive species, reduce foxtail risk, and encourage native perennial grassland cover
- Any PRA would be fenced temporarily to designate the treatment area and avoid trampling of new plantings
- Encourage preferred cover in the TMZ and PRA to reduce foxtail and bur risks to dogs without completely eliminating cover for wildlife, including establishment of perennial native grass species such as creeping wild rye
- Revegetation treatments requires short-term controls on public access in pilot areas such as temporary fencing, on-going maintenance, monitoring for success, and adaptive management practices
- If success is observed in the TMZ and PRA, additional areas at the OLA can receive similar treatments, including revegetation

- Expand signage to educate the public regarding the seasonal risk of foxtail hazards and the need to retain grassland cover in the OLA for aesthetic and park-wide habitat values

The revegetation treatment options in the TMZ and PRA would be initiated as test programs, and would require on-going management and monitoring to determine success. Native grassland revegetation proposed as part of the management options in the TMZ and PRA are a challenging and costly endeavor, and can be met with mixed success. But if sufficient effort is put in initially to establish more desired species such as creeping wild rye, they can eventually reduce the abundance of foxtails and other non-native species. And if successful, these test programs could be expanded to other areas in the OLA and the park. However, any revegetation efforts will never completely replace foxtails and other problematic non-native species, or eliminate the risk to dogs in the OLA or other areas of the park.

Reconfigured Footprint Alternative

This alternative would involve reconfiguring the OLA in ways that achieve the two primary goals of reducing foxtail risks to dogs and avoiding further impacts on wildlife habitat values. There are numerous ways to configure off-lead dog areas at Cesar Chavez Park that would achieve these goals

One option could be to relocate the current OLA to the existing field in the southwestern portion of the park (see **Reconfigured Footprint Alternative Map**). As proposed, this option would occupy about 12 acres in an area of low wildlife habitat value values. The area is currently mowed routinely to a height of three inches or less and has a much lower risk to dog users given the relative absence of foxtail species. Details of this alternative include the following:

- As one option, relocate the OLA to the approximately 12-acre maintained field where foxtail risks are currently extremely low and wildlife habitat values are also extremely low
- Continue routine mowing of entire new OLA to minimize foxtail risks and consider other management needs, such as occasional treatment of gopher holes and other depressions
- Install dog containment fencing and gates along the east and south edges to avoid conflicts with other park users and risks to dogs along Spinnaker Way
- Define north and east edge of the OLA with signage or fencing if more feasible to control dog use
- Establish new gathering area(s) with signage and improved groundcover treatments (i.e. decomposed granite, bark chips, or mulch)
- Expand signage to educate the public regarding seasonal risk of foxtail hazards and the importance of retaining cover for wildlife in natural areas

Another option could be to establish off-leash dog areas that are specifically managed for dog activity and not for wildlife habitat values. This would involve creating fenced

managed areas (large dog areas and/or small dog areas) that receive routine mowing and other possible surface treatments, such as decomposed granite or other stable ground cover, as needed. Any location decision should take into account areas of the park that already have low wildlife habitat values because of current management practices (e.g., the southeast portion of the park). The size and location of these reconfigured options could be determined by the City through a public input process outside the scope of this updated BRA. But confirmation should be provided that any reconfigured OLA would not substantially compromise wildlife habitat values.

If designed well, reconfiguring the OLA could provide several benefits by resolving on-going conflicts that occur because of the existing location of the OLA in the park. Specifically, a reconfigured OLA could be more intensively managed to reduce the foxtail risk to dogs with additional mowing and other treatments. And if sited in a location with low wildlife habitat values, concerns over impacts on wildlife would be minimal, and any future changes in management practices would not have to consider effects they may have on wildlife habitat values. And the reconfigured OLA could be sited and designed with clearer boundaries for permitted off-leash use to help reduce conflicts with humans, wildlife, and on-leash dogs. This could help reduce the need for enforcement, and provide improved safety at the park, for off-leash dogs, on-leash dogs, park users, and wildlife.

SUMMARY

The matrix in **Table 1** provides a summary of the various alternatives presented above, their “pros and cons” with regard to addressing concerns over foxtail risks and changes in wildlife habitat values, and management implications for the City.

TABLE 1. SUMMARY OF TREATMENT OPTIONS

Alternative Treatment Option	Pros and Cons	Management Implications
No Change Alternative	<ul style="list-style-type: none"> • Does not address risks to users • No change in wildlife cover or values 	<ul style="list-style-type: none"> • No added costs
Intensive Mowing Alternative	<ul style="list-style-type: none"> • Provides short-term reduction in risks • Eliminates cover and greatly reduces wildlife habitat values • Creates opportunities for expanding weed infestations due to disturbed conditions, particularly if mowing regime interrupted • Decreased aesthetic experience as a result of intensive mowing • Possible increase in erosion and sedimentation, and potential closure to public in order to protect landfill soil cover 	<ul style="list-style-type: none"> • Added maintenance staffing and costs
Increased Management Alternative	<ul style="list-style-type: none"> • Provides reduction in risks in select TMA and PRA locations • Opportunity to expand risk reduction with future TMA/PRA treatments • No significant compromise to wildlife habitat values and good opportunity to improve values through invasive species removal and native cover revegetation • Expands public education of risks through signage at key locations 	<ul style="list-style-type: none"> • Added maintenance staffing and costs • Magnitude depending on extend of TMA and PRA treatment areas • Need for long-term adaptive management, monitoring, and maintenance
Reconfigured Footprint Alternative	<ul style="list-style-type: none"> • Provides major reduction in risks to dogs and wildlife through relocation of OLA • Allows for improved habitat restoration opportunities in existing OLA through native revegetation and TMA • No significant compromise to wildlife habitat values through use of area because of relatively low values • Expands public education of risks through signage at key locations 	<ul style="list-style-type: none"> • Added maintenance staffing and costs • Need for fencing, signage, and groundcover installation and maintenance

REFERENCES

California Department of Fish and Wildlife, 2014, Natural Diversity Data Base, record search for Oakland West 7.5' U.S.G.S quadrangle.

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State of California, 1982, *East Bay Shoreline Feasibility Study*.

Wallace Roberts & Todd, LSA Associates, Subsurface Consultants, and Philip Williams & Associates, 2001, *Eastshore Park Project, Resource Summary*, prepared for California Department of Parks and Recreation, East Bay Regional Park District, and California State Coastal Conservancy, June.

Existing Conditions



Map by Heidi Gilbride 11/22/2014. All other graphics by various agencies and sources from 11/22/2014.

Current Mowing Treatment Areas



Cesar Chavez Park - Off-Leash Dog Area Management ●●●● Off-Leash Area ■■■■ Natural Protected Area

CURRENT MOWING TREATMENTS ■■■■ Fennel Mowing ■■■■ Off-Leash Area Mowing ■■■■ July Mowing Area

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Map © 2013, All rights reserved by www.aerialgeographics.com on 11/20/14.

No Change Alternative



Intensive Mowing Alternative



Increased Management Alternative



• Further address risk of foxtails and burs along trails and through pilot native revegetation with desired cover while protecting wildlife habitat in OLA

Cesar Chavez Park - Off-Leash Dog Area Management
INCREASED MANAGEMENT ALTERNATIVE

ENVIRONMENTAL COLLABORATIVE
 Consultation • Documentation • Restoration

Off-Leash Area
 Natural Protected Area
 Trail Management Zones
 Natural Area Postings
 Pilot Revegetation Area
 Off-Leash Area Mowing

Scale: 0 100 200 Feet

Image base: GIS 03/13. Map prepared by: www.flycatcherproject.com on 11/22/2014.

Reconfigured Footprint Alterative



ATTACHMENT A
1997 Biological Assessment

ENVIRONMENTAL COLLABORATIVE

CONSULTATION • DOCUMENTATION • RESTORATION
127 Western Drive • Pt Richmond, CA 94801 • (510) 236-2361

8 September 1997

Mr. Tony Lee
City of Berkeley
Planning and Development Department
2118 Milvia Street, 3rd Floor
Berkeley, California 94704

SUBJECT: Biological Assessment
Initial Study for 20-Acre Off-Leash Dog Area
Cesar Chavez Park
Berkeley, California

Dear Tony:

As you requested, I have conducted a biological assessment of the impacts associated with a proposed 20-acre off-leash dog area in the northern portion of Cesar Chavez Park. The 20-acre area is located in the northern 40-acre unimproved portion of the park, bordered by open water of the bay to the north, east and west, and irrigated lawns and picnic area improvements to the south. Dogs are to be leashed at all times in the park according to the City ordinance, although this appears to be loosely enforced, particularly in the northern portion of the park.

The City Council is currently considering implementing a pilot program which would allow legal off-leash dog use of the designated 20-acre area. A Dog Use Task Force identified the 20-acre area within the unirrigated northern portion of the park as a multi-use, non-structured activity area to include dogs off leash at all times. Designation of a minimum 20-acre area was one of 13 recommendations developed by the Task Force and under consideration by the City Council. Other recommendations of the Task Force include: use of signage to demarcate the multi-use area, with dogs to be kept on leash in all other areas; establishing a minimum 200 foot buffer zone to separate the multi-use area from the existing perimeter trail; maintaining a portion of the multi-use area to minimize the growth of foxgloves; and providing a quarterly review of the program to determine any significant negative impacts on wildlife, vegetation, or on the public which would allow for reconsideration of the proposed boundaries and preparation of a mitigation plan, if necessary.

This assessment provides a description of the existing biological resources in the park vicinity, a discussion of the potential effects of the proposed off-leash use, and recommendations to minimize adverse impacts and define appropriate monitoring to accurately determine effects of the pilot program.

BACKGROUND AND METHODS

This assessment is based on the review of available information on biological resources from the region and project vicinity, and a field reconnaissance of the site. Information reviewed

Included: the *North Waterfront Park Master Plan* (City of Berkeley, 1979), the *Berkeley Waterfront Plan, Amendment to the City's Master Plan* (City of Berkeley, 1986), the *Wetland Habitat Feasibility Study, North Waterfront Park* (LSA, 1993), the *East Bay Shoreline Feasibility Study*, (State of California, 1982), the *North Waterfront Park Land Use Plan Environmental Impact Report* (Spectrum Northwest, 1978), the California Native Plant Society's (CNPS) *Inventory of Rare and Endangered Vascular Plants of California* (CNPS, 1994) and other references on California flora (Munz, 1973; Holland, 1986; Hickman, 1993; Sawyer and Keeler-Wolf, 1995), the *Guide to California Wildlife Habitat Relationships System* and Volumes I, II, and III of *California's Wildlife* (California Department of Fish and Game, various dates), the *Notice of Review* for federally-listed and candidate animals (U.S. Fish and Wildlife Service, 1996), the California Department of Fish and Game's (CDFG) list of special animals and plants (CDFG, 1996), and a record search by the California Natural Diversity Data Base (CNDDB). The record search by the CNDDB provided mapped information on the known extent of sensitive natural communities and reported occurrences of special-status species for northwestern Alameda County (CNDDB, 1997).

A field reconnaissance survey of the proposed 20-acre off-leash area and surrounding parklands was conducted on 4 September 1997. The perimeter of the 20-acre area had previously been chalked and flagged to clearly delineate the proposed boundary. Walking transects were made around the perimeter of the 20-acre area, across it using several bisecting trails and roads, and along the perimeter trail outside the proposed off-leash area. The reconnaissance served to determine vegetation and general wildlife habitat, habitat suitability for special-status species, and an understanding of both legal and illegal dog use in the area.

SETTING

Vegetation and Associated Wildlife

Vegetative cover in Cesar Chavez Park is composed of irrigated turf, limited native landscape plantings, and non-native grassland and ruderal (weedy) species. The southern half of the park is maintained as irrigated turf, with some native scrub and grassland plantings along the bluffs at the western edge of the park. The northern half of the park where the off-leash area has been proposed generally supports a cover of annual grasses and weedy forbs. A few coyote brush shrubs (*Baccharis pilularis*) and a single clump of sapling willow (*Salix lasiolepis*) occurs in the northeastern portion of the park. The western, northern, and eastern edges of the park are bordered by the open water habitat of the bay, with extensive rip-rapping and no vegetation along the shoreline. Existing development occurs to the south of the park.

The existing cover in the proposed off-leash area varies from sparse to barren ground, to areas with a dense cover of grasses and ruderal species. Most of the grassland species are non-native annuals, dominated by wild oat (*Avena fatua*) and brome (*Bromus* sp.). Other species occurring in the grasslands include: plantain (*Plantago* sp.), field mustard (*Brassica campestris*), clover (*Trifolium* sp.), and bristly ox-tongue (*Picris echioides*). A few clumps of sweet fennel (*Foeniculum vulgare*) and pampas grass (*Cortaderia jubata*) occur along the northern edge of the proposed off-leash area, but these species currently do not form extensive stands.

The grasslands are of limited value of wildlife due to the poorly developed cover and extent of past disturbance. The numbers and diversity of wildlife species observed during the field reconnaissance were very low, possibly because of the short amount of time spent in the field,

but also in part due to the limited cover provided by the grasslands. Species actually observed within the proposed off-leash area include: savannah sparrow, white-crowned sparrow, rock dove, Botta's pocket gopher, and fly overs by double-crested cormorant and several species of gull. Other species reported from the vicinity in the past include: feral cat, black-tailed jackrabbit, Norway rat, mourning dove, western meadowlark, killdeer, and several other granivorous bird species. A number of predatory birds may occasionally forage in the open grasslands, such as American kestrel, turkey vulture, black-shouldered kite, and northern harrier, but no raptor nesting activity or signs were observed during the reconnaissance or are believed to occur in the area.

Wetlands

Although definitions vary to some degree, wetlands are generally considered to be areas that are periodically or permanently inundated by surface or ground water, and support vegetation adapted to life in saturated soil. Wetlands are recognized as important features on a regional and national level due to their high inherent value to fish and wildlife, use as storage areas for storm and flood waters, and water recharge, filtration and purification functions. The CDFG and U.S. Army Corps of Engineers (Corps) have jurisdiction over modifications to river banks, lakes, stream channels and other wetland features.¹

A preliminary wetland assessment was conducted during the field reconnaissance to determine the possible extent of habitat subject to Corps jurisdiction. Based primarily on vegetative criteria, wetlands are absent within the proposed off-leash area. Concrete-lined ditches serve to collect and convey runoff in a non-erosive manner near the southeastern, southwestern, and northern edges of the off-leash area, but vegetation is absent along these structures.

¹ The CDFG and Corps have jurisdiction over modifications to stream channels, river banks, lakes, and other wetland features. Jurisdiction of the Corps is established through the provisions of §404 of the Clean Water Act, which prohibits the discharge of dredged or fill material into "waters" of the United States without a permit, including wetlands and unvegetated "other waters of the U.S.". The Corps uses three mandatory technical criteria (hydrophytic vegetation, hydric soils, and wetland hydrology) to determine whether an area is a jurisdictional wetland. All three of the identified technical criteria must be met for an area to be identified as a wetland under Corps jurisdiction, unless the area has been modified by human activity. Aggregate wetland impacts (defined as direct fill or indirect effects of fill) of less than one acre do not require an Individual 404 permit. Certain activities in wetlands or "waters" are automatically authorized, or granted a General Permit which allows the filling of wetlands where impacts do not exceed one acre. The Corps assumes discretionary approval over proposed project which may impact between one and ten acres, issuing either a Nationwide or an Individual Permit. An Individual Permit would be automatically required where 10 acres or more would be affected by a project.

The U.S. Fish and Wildlife Service (USFWS) classification system is used by the CDFG to determine wetlands. This classification system is generally more encompassing than that used by the Corps, requiring that only one of the criteria be met for an area to be considered wetlands, rather than all three as required by the Corps. Jurisdictional authority of the CDFG over wetland areas is established under §1601-1606 of the Fish and Game Code, which pertains to activities that would disrupt the natural flow or alter the channel, bed, or bank of any lake, river, or stream. The Fish and Game Code stipulates that it is "unlawful to substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stream or lake" without notifying the Department, incorporating necessary mitigation, and obtaining a Streambed Alteration agreement. The Wetlands Resources Policy of the CDFG states that the Fish and Game Commission will "strongly discourage development in or conversion of wetlands...unless, at a minimum, project mitigation assures there will be no net loss of either wetland habitat values or acreage". The Department is also responsible for commenting on projects requiring Corps permits under the Fish and Wildlife Coordination Act of 1958.

Special-Status Species

Special-status species² are plants and animals that are legally protected under the state and/or federal Endangered Species Acts³ or other regulations, as well as other species that are considered rare enough by the scientific community and trustee agencies to warrant special consideration, particularly with regard to protection of isolated populations, nesting or denning locations, communal roosts and other essential habitat. Species with legal protection under the Endangered Species Acts often represent major constraints to development, particularly when they are wide ranging or highly sensitive to habitat disturbance and where proposed development would result in a "take"⁴ of these species.

No special-status species have been reported from the park or immediately surrounding area by the CNDDB. Due to the man-made nature of the park and absence of suitable habitat, no special-status plant species were encountered or are believed to occur in the proposed off-leash area. Similarly, the absence of suitable habitat and extent of human activity, limits the likelihood of any breeding activity by special-status animal species. The off-leash area and surrounding grasslands most likely provide marginal foraging habitat for several species of raptors, including northern harrier (*Circus cyaneus*) and black-shouldered kite (*Elanus caeruleus*). Northern harrier has been identified as Species of Special Concern⁵ by the CDFG and black-shouldered kite is a fully protected species⁶, but neither have legal protective status under the state or federal Endangered Species Acts. Active nests of raptors are protected under the Migratory Bird Treaty

² Special-status species include: designated rare, threatened, or endangered and candidate species for listing by the CDFG; designated threatened or endangered and candidate species for listing by the USFWS; species considered rare or endangered under the conditions of Section 15380 of the *California Environmental Quality Act (CEQA) Guidelines* (State of California, 1994), such as those plant species identified on lists 1A, 1B and 2 in the *Inventory of Rare and Endangered Vascular Plants of California* (California Native Plant Society, 1994); and possibly other species which are considered sensitive or of special concern due to limited distribution or lack of adequate information to permit listing or rejection for state or federal status, such as those included on list 3 in the *California Native Plant Society Inventory* or identified as animal "Species of Special Concern" by the CDFG.

³ The FESA of 1973 declares that all federal departments and agencies shall utilize their authority to conserve endangered and threatened plant and animal species. The CESA of 1984 parallels the policies of FESA and pertains to native California species.

⁴ "Take" as defined by the Federal Endangered Species Act (FESA) means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect" a threatened or endangered species. "Harm" is further defined by the USFWS to include the killing or harming of wildlife due to significant obstruction of essential behavior patterns (i.e., breeding, feeding, or sheltering) through significant habitat modification or degradation. The CDFG also considers the loss of listed species habitat as take, although this policy lacks statutory authority and case law support under the CESA.

Two sections of FESA contain provisions which allow or permit "incidental take." Section 10(a) provides a method by which a state or private action which may result in take may be permitted. The applicant must provide the USFWS with an acceptable conservation plan and publish notification for a permit in the Federal Register. Section 7 pertains to a federal agency which proposes to conduct an action which may result in take, requiring consultation with USFWS and possible issuance of a jeopardy decision. Under the CESA, take can be permitted under Section 2081 of the Fish and Game Code. The applicant must enter into a habitat management agreement with the CDFG, which defines the permitted activities and provides adequate mitigation.

⁵ Species of Special Concern generally have no legal protective status but are of concern to the CDFG because of severe decline in breeding populations in California. Nests and communal roosts are recognized as significant biological features.

⁶ California fully protected species may not be possessed or taken at any time.

Act⁷ and Section 3503.5 of the State Fish and Game Code. However, the lack of nesting substrate and extent of human activity basically precludes nesting activity by these and other raptors in the off-leash area of the park.

One species of concern, burrowing owl (*Athene cunicularia*) has been known to occur on former landfill sites in the Bay Area. The presence of owls, including burrowing owl, short-eared owl (*Asio flammeus*), and barn owl, is apparently mentioned in an Environmental Impact Report on the Park Marina Shopping Center Development Project in 1971 (State of California, 1982), but again no occurrences of either burrowing owl or short-eared owl have been reported by the CNDDB.

ENVIRONMENTAL ASSESSMENT

Significance Criteria

The CEQA Guidelines identify potentially significant environmental effects on biological resources to include:

- impacts on a population or essential habitat of special-status plant or animal species;
- substantial interference with the movement of any resident or migratory fish or wildlife species; and
- a substantial reduction in habitat for fish, wildlife or plants.

Potential Impacts and Recommended Mitigation

Based on the results of the background review and habitat suitability analysis conducted during the field reconnaissance, the proposed off-leash use would not affect any established sensitive natural communities, wetlands, or essential habitat for special-status species. It is likely that a number of raptors with special-status may occasionally forage through the grasslands in the northern portion of the park, but suitable nesting habitat is believed to be absent because of the existing human and dog activity.

The effect of the proposed off-leash use on the wildlife habitat value of the northern portion of the park would depend on a number of factors. These include: the extent to which the off-leash area is used by dogs; the duration of the pilot program and whether permitted off-leash dog activity becomes a permanent component of the park use; future management practices within the off-leash area; whether dogs are actually leashed outside the designated off-leash area; and degree to which the northern portion of the park is enhanced with native vegetation and wetland habitat as called for in the 1979 North Waterfront Park Master Plan. While initial implementation of the pilot program would probably not have a significant impact on wildlife use in the short-term (due in part to the current practice of off-leash activity anyway), over the long-term increasing off-leash activity as currently proposed in the recommendations of the Dog Use Task

⁷ The Migratory Bird Treaty Act does not provide protection for habitat of migratory birds, but does prohibit the destruction or possession of individual birds, eggs, or nests in active use without a permit from the USFWS.

Force would significantly affect the habitat value of the northern portion of the park.

Dog and human activity is known to be disruptive to wildlife use, and unleashed dogs would tend to flush any birds and dig for burrowing mammals within the off-leash area. While the poorly developed cover in the ruderal grasslands currently provides only limited wildlife habitat value for a select number of species, establishing off-leash dog activity as a legal use would further limit its habitat value by inviting additional off-leash use. It is questionable whether the delineated boundary of the off-leash area would be respected by dog owners, given the current practice of off-leash activity, the isolated nature of the northern portion of the park, and difficulty City staff would have in monitoring dog activity in this portion of the park. Permitting off-leash use may contribute to additional disruption of wildlife use in locations outside the designated off-leash area, particularly if the boundary is not clearly marked or fenced. In addition, one of the Task Force recommendations calls for maintaining a portion of the off-leash area to minimize the growth of foxtails, which could conceivably include mowing or disking, further reducing the already limited cover for wildlife.

Protecting and enhancing wildlife habitat is just one of numerous policies related to future use in the park. The 1979 North Waterfront Park Master Plan includes a seven-acre freshwater pond and wildlife sanctuary to be located in the "natural zone" of the park. Unless off-leash dog activity is carefully monitored and controlled, which appears to not be the case for much of the northern portion of the park, additional dog activity could be disruptive to the value of a future wildlife sanctuary, conflicting with the intent of the 1979 Plan. Further review and consideration of the relationship between the future wetland habitat/wildlife sanctuary improvements and off-leash use would be appropriate if the pilot program continues.

While the proposed off-leash area currently provides only limited habitat for wildlife, establishing an off-leash area would further limit its existing and potential future habitat value. Unleashed dog activity already occurs in the northern portion of the park and establishment of a designated off-leash area does call for further monitor and control of illegal dog use, and consequently some opportunity to minimize disruption to wildlife in at least part of the northern portion of the park.

Recommendations

The following measures are recommended to alleviate the potential adverse affects of off-leash dog activity on the wildlife habitat value of the northern portion of Cesar Chavez Park.

1. The size of the initial off-leash area should be reduced to a maximum of 10 acres to provide a greater setback between the perimeter trail and future wetland/wildlife sanctuary in the northeastern portion of the park. Decreasing the size of the off-leash area would reduce the extent of wildlife habitat directly affected by possible permanent uncontrolled dog activity and should help reduce the likelihood that owners would unleash or neglect to release their dog while moving between the designated off-leash area and the existing perimeter trail. Signage should be provided along each of the major trails and existing roads indicating off-leash/on-leash boundaries.
2. Signage should be provided at major trail access points into the park and the off-leash area explaining the sensitivity of wildlife and need to control dogs to prevent harassment

at all times.

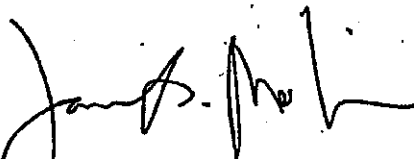
3. Maintenance activities to minimize the growth of foxtails and burs within the off-leash area should be limited in extent and not result in a significant reduction in vegetative cover in the northern portion of the park. These should include the following controls or restrictions:
 - Mowing or disking of the entire off-leash area to control foxtails and burs should be prohibited.
 - Recommended treatment should consist of a late spring mowing either within 20 feet of major trails or roadways in the off-leash area or in a defined two acre portion of the off-leash area. Mowing height should preferably be set between four and six inches of the ground surface to retain some grassland cover for wildlife while removing seed heads. Additional mowings may be necessary in mid to late summer to prevent establishment and spread of yellow star thistle and other late-flowering invasive species.
4. If excessive off-leash activity is observed outside the designated off-leash area, appropriate measures should be taken to correct the problem. This should include the following actions to be implemented sequentially as necessary to protect wildlife habitat in the northern portion of the park:
 - Increasing monitoring by City staff and issuance of tickets for all infractions of illegal dog activity.
 - Establishing a fence along at minimum the northern, western, and eastern boundaries of the designated off-leash area. The fencing should be a minimum of four feet in height, with open wire mesh that would contain dogs but not obstruct movement by small mammals. Signage should be provided at all access points to the off-leash area explaining dog use restrictions. Access points through the fencing along the northern, western, and eastern edges of the off-leash area should be kept to a minimum to control dog activity.
 - Prohibiting all dogs from areas in the northern portion of the park outside the fenced off-leash area. This should include the entire portion of the perimeter trail north of the landscaped turf areas. Any gates in the fencing along the northern, western, and eastern boundaries should be permanently locked to prevent dog access to prohibited areas. Signage should be provided clearly indicating that dogs are prohibited along the northern trail segments, and that owners are only allowed to use the off-leash area and turf area to the south. A new trail could be created just inside the fenced area to provide dog owners with a similar walking experience to that provided by the existing perimeter trail.
 - If dog activity continues to be poorly monitored and controlled, unleashed dog activity should be completely restricted from the park.
5. Establishment of an off-leash area should not conflict with future plans to create wetland

habitat and a wildlife sanctuary in the northern portion of the park. Additional restrictions on dog use may be appropriate when plans for the wetland/sanctuary are developed and eventually implemented. This may include prohibiting all dog activity within a specified distance from the wetland/sanctuary.

I assume this provides you with the assessment information necessary to complete the Initial Study on the pilot program for off-leash dog activity in Cesar Chavez Park. Please feel free to contact me at 510/236-2361 if you have any questions on the assessment or would like any additional information on any of the above recommendations.

Sincerely,

ENVIRONMENTAL COLLABORATIVE



James A. Martin
Principal

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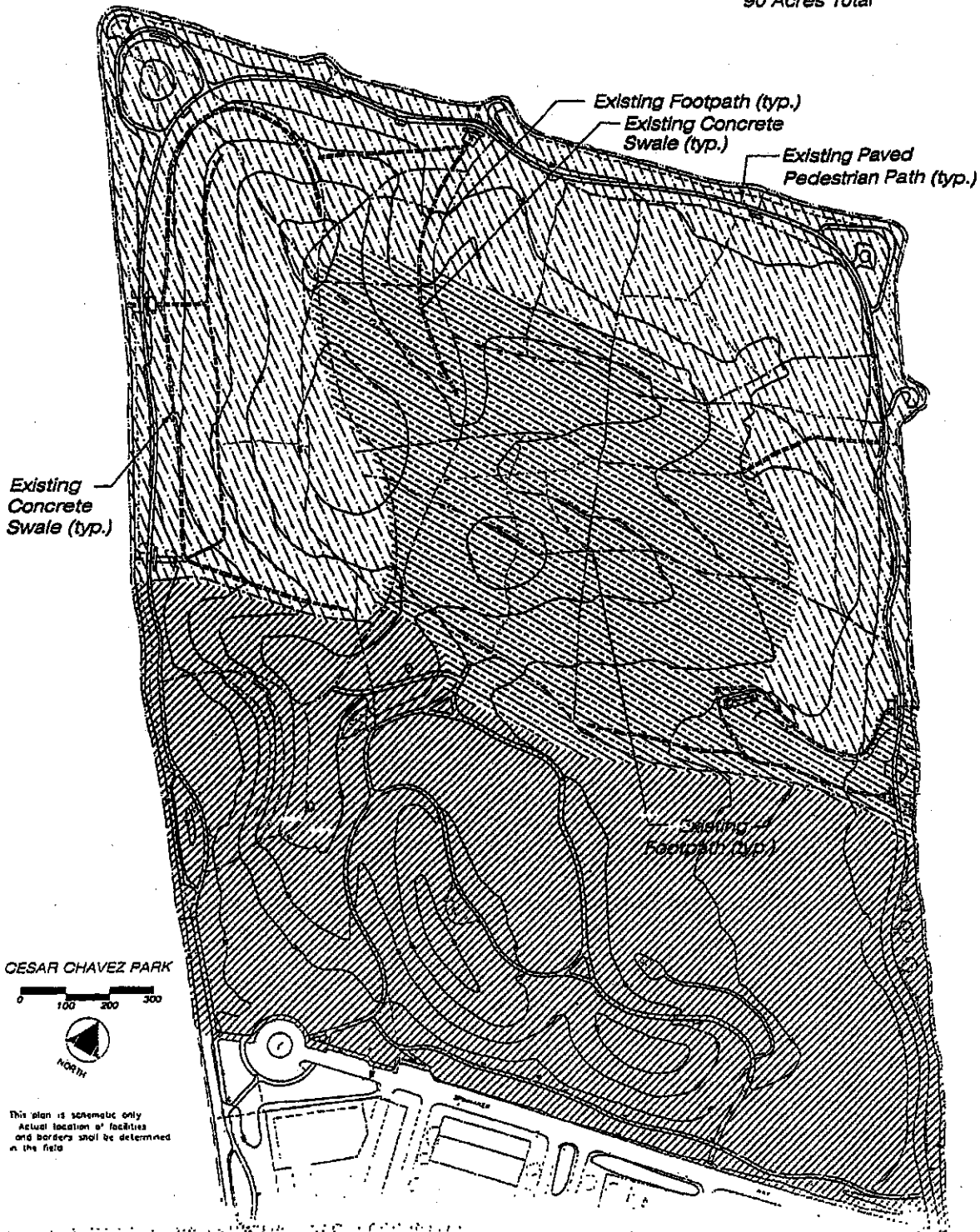
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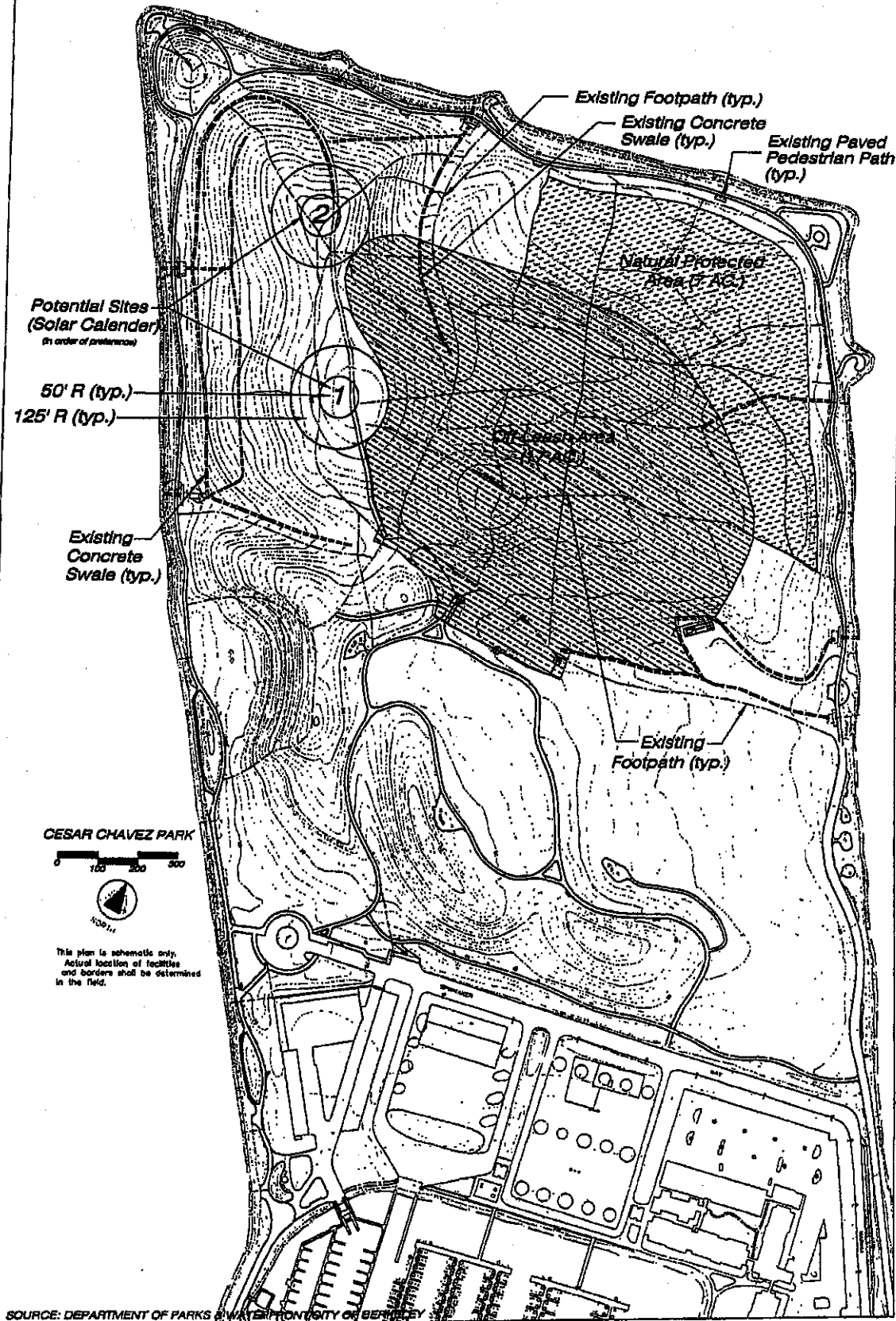
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LEGEND

-----	Concrete Swale (e)		Transition Zone (p) (20 AC.)
-----	Footpath (e)		Natural Zone (p) (32 AC.)
=====	Paved Pedestrian Path (e)		Recreation Zone (p) (38 AC.)
-----	Secondary Trail (e)		
(e)	Existing		
(p)	Proposed		
(typ.)	Typical		

90 Acres Total





ATTACHMENT B

List of Plant Species Observed in OLA

List of Plants Observed at OLA, Cesar Chavez Park, Berkeley, California,

Based on field visit on July 26, 2014

Scientific Name	Common Name	Native
<i>Achillea millefolium</i>	yarrow	yes
<i>Avena barbata</i>	slender wild oats	no
<i>Avena fatua</i>	wild oats	no
<i>Baccharis pilularis</i>	coyote brush	yes
<i>Bromus diandrus</i>	ripgut brome	no
<i>Bromus hordeaceus</i>	soft chess	no
<i>Carduus pycnocephalus</i>	Italian thistle	no
<i>Cortaderia jubata</i>	pampas grass	no
<i>Cotoneaster sp.</i>	cotoneaster	no
<i>Genista monspessulana</i>	French broom	no
<i>Dactylus glomerata</i>	orchard grass	no
<i>Erodium moschatum</i>	white-stemmed filaree	no
<i>Festuca perennis</i>	Italian ryegrass	no
<i>Foeniculum vulgare</i>	sweet fennel	no
<i>Fraxinus sp. (ornamental)</i>	ash	no
<i>Grindelia stricta</i>	coast gumplant	yes
<i>Helminthotheca echioides</i>	prickly ox-tongue	no
<i>Hesperocyparis macrocarpa</i>	Monterey cypress	yes
<i>Hirschfeldia incana</i>	short pod mustard	no
<i>Hordeum brachyantherum</i>	meadow barley	yes
<i>Hordeum marinum ssp. gussoneanum</i>	Mediterranean barley	no
<i>Hordeum murinum ssp. leporinum</i>	foxtail barley	no
<i>Lactuca serriola</i>	prickly lettuce	no
<i>Lotus corniculatus</i>	bird's foot trefoil	no
<i>Madia sativa</i>	coast tarweed	yes
<i>Malva pseudolavatera</i>	Cornish mallow	no
<i>Malva parviflora</i>	cheeseweed	no
<i>Melilotus indicus</i>	small melilot	no
<i>Plantago coronopus</i>	Cut-leaf plantain	no
<i>Plantago lanceolata</i>	English plantain	no
<i>Polygonum aviculare</i>	knotgrass	no
<i>Raphanus sativus</i>	wild radish	no
<i>Rumex crispus</i>	curly dock	no
<i>Rumex pulcher</i>	fiddle dock	no
<i>Vicia villosa</i>	hairy vetch	no

Nomenclature according to: *The Jepson Manual: Vascular Plants of California*, Second edition, 2012