
**ATTACHMENT D: BIRD & TERRESTRIAL VERTEBRATE
REPORT**



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Birds and Wildlife of Oxford Basin

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Introduction

In late 2009, Cooper Ecological Monitoring, Inc. was contracted by Robert A. Hamilton (RAH) of Hamilton Biological, Inc., and the County of Los Angeles to assess the biological community of Oxford Basin (Basin). The study area for this enhancement project includes 9.0 acres of a 10.7-acre parcel within Marina del Rey in Los Angeles County. In 2009, just prior to and concurrent with this work, I had teamed with RAH to produce a Conservation & Management Plan for Marina del Rey (now in draft form), which will assess the current and historical status of colonial waterbirds and other sensitive species of Marina del Rey, including Oxford Basin.

Background

Oxford Basin (Figure 1) was constructed in 1960 to “receive storm runoff at such times as the state of the tide within the [Marina del Rey] harbor precluded its discharge causing inundation of the low-lying lands adjacent to the north section of the harbor” (County of Los Angeles 1976). The Basin’s water is roughly half as saline as seawater (C. Swift, pers. comm.). The Basin is fed by two (freshwater) storm drain inlets along the northeastern and southeastern ends, and a tidal gate at the western end provides limited flushing (the Basin was not designed to drain completely; as of the 1970s, the daily tidal range was “on the order of 5 feet”, County of Los Angeles 1976; see Appendix).



Figure 1. Oxford Basin (at low tide), showing inlet under Washington Blvd. (A), "eastern" inlet (B), main outlet to Marina del Rey harbor (C), mudfat/drawdown area (D), and myoporium grove (E).

Figures 2 and 3 show Oxford Basin at low and high tide, respectively. This site now represents the largest remnant of open space, and the only area of tidal wetland habitat, within Marina del Rey. Today, the Los Angeles County Department of Public Works is looking into improving the function and natural features of Oxford Basin, and evaluating the biotic resources of the site, which have not been studied in decades. In the intervening years, wetland habitat, including that of small sites like Oxford Basin, have only become rarer and more highly valued in the region.



Figure 2. Oxford Basin, view west, during draw-down (28 May 2010, DSC).



Figure 3. Oxford Basin, view west, when full (23 September 2009, RAH).

To ensure that future work is done in a manner sensitive to the natural environment, and complementary of the ecological integrity of the nearby Ballona Wetlands, Cooper Ecological Monitoring was asked to:

- Develop baseline species lists for terrestrial vertebrates on the site.
- Assess the constraints on the current usage of the site by native bird species.
- Provide recommendations to the County for ecological improvements that could be made to the site, while still allowing for its primary use as a flood-control structure.

History of Site

Following its construction in 1963, the entire site, including approximately five acres of open water and surrounding landscaped “upland”, was designated as a “Bird Conservation Area” by the Los Angeles County Board of Supervisors. In 1965, fill dirt was imported and placed along the northeastern edge of the site, and (irrigated) plantings were made here “to further improve the habitat”, with additional plantings continuing to 1968 (County of Los Angeles 1976). Despite the moniker of “Bird Conservation Area”, the site has never been formally managed for wildlife¹, and by the early 1970s it had become a popular dumping ground for unwanted pets, including rabbits and chickens. This situation was partially remedied in the 1990s by the construction of a taller fence surrounding the site, making it more difficult to toss pets inside. Still, other management issues remain, most significantly, the lack of full tidal flushing, which during summer months results in the formation of thick mats of algae

¹ Some actions ran counter to current ecological practices; a flock of domestic ducks was introduced from Alondra Park in 1965, reportedly prompted by “the apparent lack of bird life” at the site (County of Los Angeles 1976, p. 4). Descendents of these birds, as well as domestic ducks from the nearby Venice Canals, may still occur today.

covering the surface of the lagoon, as well as unpleasant odors from decomposing vegetation².

Designed and still used exclusively as a storm water catchment facility, Oxford Basin has been the subject of several proposals to improve its appearance and provide amenities for visitors to and residents of Marina del Rey since the 1960s. The most significant was a proposed 1.3-million-dollar “Japanese-American Cultural Garden” (1976), which led to the first attempt to study the birds of the site, consisting of a series of visits between 14 June to 30 November 1973 by an undergraduate student at California State University, Humboldt (then Humboldt State College; Schleicher 1974; see Appendix). It should be noted, however, that this study was not done by a trained observer (e.g., gulls were not identified to species), and it entirely missed the primary local nesting season for birds (March - May). In addition, many of the management recommendations in the report are unsophisticated, and read as the (unsupported) opinions of a young student (e.g., “We have for all practical purposes 100% cover on the land of which 90% is usable for the birds”; Schleicher 1974:9). Perhaps most jarringly, the author suggested planting non-native cotoneaster (*Pyracantha* sp.) widely, and removing native marsh plant species such as pickleweed (*Salicornia virginica*).

A second attempt to survey the birds of the Oxford Basin was done five years later, consisting of weekly surveys from 11 August 1979 to 08 August 1980 (with a “preliminary investigation” conducted from 07 October 1978 to 14 April 1979) by staff from the Los Angeles County Museum of Natural History (Schreiber and Dock 1980:2; see Appendix). In addition to producing a more professional report, the authors went into more detail on the habitat conditions and avian usage (including observations of flocks of white-crowned sparrows [*Zonotrichia leucophrys*] – now essentially extirpated from the site – feeding under shrubs in winter). However, this study, too, was similarly not peer-reviewed, and includes some questionable information. For example, under the account for belted kingfisher (*Megaceryle alcyon*), the authors state that a pair “probably nests at the Bird Conservation Area”; the species was and still is virtually unknown as a breeder in southern California, confined to a handful of remote, unchannelized streams in the backcountry. Even less helpful, the report recommended that the site be modified “to make it more conducive for the domestic animals”, and included many normative statements that serve to downplay the importance of the site as a natural area, e.g., “the area serves little or no purpose as a conservation area for a viable population of migratory or resident wild species” and “any efforts at habitat modification would have little or no effect at increasing the wild avian populations in the region.” These pejorative statements are still quoted in environmental documentation (e.g., California Coastal Commission 2007), if only because the site has not been re-studied in more than 30 years.

Other sources of information on the birds of the area deserve mention, including a database of bird counts from monthly visits to nearby Ballona Lagoon (i.e., the southernmost extension of the main Venice Canal, so-named in 1996 following an extensive habitat restoration project), compiled by local birder Charles Almdale between 1996 and 2006. Ballona Lagoon, a linear wetland of approximately 16 acres located a short distance west/coastward of Oxford Basin, receives tidal flushing from the Marina del Rey harbor

² During summer, maintenance staff from Los Angeles County Department of Beaches and Harbors rake piles of algae from the basin at low tide (DSC pers. obs.).

mouth at its southern end (CERES 1997). While not directly applicable to Oxford Basin in its current state, Ballona Lagoon may serve as a model of what restoration of a similar-sized wetland can achieve. For example, Ballona Lagoon is regularly visited by the State- and federally-endangered California least tern (*Sternula antillarum brownii*) and supports a much wider diversity of waterfowl, shorebirds, large waders (herons/egrets) and migrant landbirds year-round than does Oxford Basin.

Methods

For this report, DSC conducted a thorough review of existing literature on the historical Ballona Wetlands and Marina del Rey, including obtaining copies of both prior bird surveys (see above) during the 1970s. DSC and/or RAH conducted brief (1-2 hour) monthly visits to Oxford Basin on eight mornings between September 2009 and April 2010 (23 September 2009 - morning and afternoon visit, 23 October 2009, 20 November 2009, 23 December 2009, 12 January 2010, 24 February 2010, 25 March 2010, and 27 April 2010), recording numbers of all birds seen at the site (including the “upland”/planted areas adjacent to the lagoon itself). Prior to this, we made a combined 19 visits to Oxford Basin during summer 2009 to census heron and egret usage for the Marina del Rey Conservation & Management Plan (Hamilton and Cooper 2010).

Results

Birds

As of July 2010, 84 species of birds have been credibly recorded at Oxford Basin (Schleicher 1974; Schreiber and Dock 1980; this study). A handful of species reported in previous studies are not credible, and should not be considered part of the avifauna of the site. For example, Schreiber and Dock (1980:21) reported multiple olive-sided flycatchers (*Contopus cooperi*) in January, but the species is virtually unknown in winter in North America. Of the 84 species credibly reported, 33 species were not detected during our recent monthly visits since September 2009, which suggests that roughly 50 species may be expected to occur regularly at the site each year. The following Table A provides the results for 2009/2010 and compares them with results obtained 30 years ago, mainly by Schreiber and Dock (1980). Apparent changes in bird species composition at the Basin are discussed in subsequent sections of this report (see especially “Faunal Change at Oxford Basin” on page 13).

Table A. Status of bird species at Oxford Basin, 1980 vs. 2009/2010

Family	Species	1980	Present	Change
Waterfowl	Mallard <i>Anas platyrhynchos</i>	50+ year-round, incl. domestics	Up to 23 during fall/winter; <5 during spring; pair with 5 young on 28 May 2010.	N/A
	American wigeon <i>Anas americana</i>	Vagrant (1 on 18 Nov.)	Up to 89 in winter (Nov. - Mar.)	Colonization
	Gadwall <i>Anas strepera</i>	No record	Up to 6 in winter (Dec. - Feb.)	Colonization
	Cinnamon teal <i>Anas cyanoptera</i>	Vagrant (1 in early May)	No records	N/A
	Bufflehead <i>Bucephala albeola</i>	Vagrant (1 in late Oct.)	No records	N/A
	Lesser scaup <i>Aythya affinis</i>	Up to 20 in winter (Nov. - Mar.)	Up to 14 in winter (Nov. - Mar.)	N/A
Quails	California quail <i>Callipepla californica</i>	1 in spring	No records	N/A

Family	Species	1980	Present	Change
Grebes	Pied-billed grebe <i>Podilymbus podiceps</i>	Singles in winter	Five in fall (23 Oct.), 1 through winter	N/A
	Eared grebe <i>Podiceps nigricollis</i>	Up to 3 in winter	1 in winter	N/A
	Western grebe <i>Aechmophorus occidentalis</i>	Single in winter	1 on 20 Nov.	N/A
Pelicans/ Cormorants	California brown pelican <i>Pelecanus occidentalis californicus</i>	No record	1 imm. in fall/winter	N/A
	Double-crested cormorant <i>Phalacrocorax auritus</i>	Vagrant (1 on 26 Nov.)	Up to 3 in fall	N/A
Large waders	Great blue heron <i>Ardea herodias</i>	No records	1 on 3 dates	Colonization?
	Great egret <i>Ardea alba</i>	No records	1-2 through early winter	Colonization
	Snowy egret <i>Egretta thula</i>	Singles on 2 dates	Up to 3 year-round	Colonization
	Green heron <i>Butorides virescens</i>	Up to 3 in winter	No records	Extirpation?
	Black-crowned night-heron <i>Nycticorax nycticorax</i>	2 in late winter/spring	Up to 8	N/A
Raptors	Red-shouldered hawk <i>Buteo lineatus</i>	Listed by Schleicher (1974)	Single on several dates	N/A
	Red-tailed hawk <i>Buteo jamaicensis</i>	No records	1 on 23 Dec.	N/A
	American kestrel <i>Falco sparverius</i>	Resident (“observed commonly”)	No records	Extirpation
Rails	American coot <i>Fulica americana</i>	20-50 birds in fall/winter	Up to 45 birds fall/winter	N/A
Shorebirds	Black-bellied plover <i>Pluvialis squatarola</i>	1 on two dates in fall	No records	N/A
	Semipalmated plover <i>Charadrius semipalmatus</i>	3 on 14 Oct.	No records	N/A
	Killdeer <i>Charadrius vociferus</i>	Up to 6 in fall, then 1 through winter	1-2 in spring	Slight decline
	Greater yellowlegs <i>Tringa melanolenca</i>	2 on 26 Nov.	No records	N/A
	Spotted sandpiper <i>Actitis macularia</i>	Sporadic Sept. – May	No records	Decline
	Marbled godwit <i>Limosa fedoa</i>	1 in fall	No records	N/A
	Western sandpiper <i>Calidris mauri</i>	“sporadically on mudflats” in winter	No records	Extirpation?
	Sanderling* <i>Calidris alba</i>	150 on 26 Nov.*	No records	N/A
	Red knot <i>Calidris canutus</i>	2 on 9 Dec.	No records	N/A
	Long-billed dowitcher <i>Limnodromus scolopaceus</i>	1 in Jan.	No records	N/A
Gulls/Terns	Bonaparte’s gull <i>Larus philadelphia</i>	1 on 2 Dec.	No records	N/A
	Heermann’s gull <i>Larus heermanni</i>	“Occ.” in fall/winter	No records	Decline
	Ring-billed/California gull <i>Larus delawarensis/L. californicus</i>	Up to 37 Oct. - Apr.	2 RBGU on 12 Jan.	Decline
	Herring gull <i>Larus argentatus</i>	3 on 13 Jan.	No records	N/A
	Western gull <i>Larus occidentalis</i>	Irregular throughout year	Singles on 4 dates	N/A
	Forster’s tern <i>Sterna forsteri</i>	“Occ.” on mudflats in fall/winter	No records	Decline
	California least tern <i>Sternula antillarum brownii</i>	“Observed foraging in the pond...spring and summer, 1980”	No records	Extirpation?
Doves	Rock pigeon <i>Columba livia</i>	Up to 41 year-round	3-4 in spring	Decline
	Eurasian collared-dove <i>Streptopelia decaocto</i>	No records	Resident in surrounding urban area (to north)	(Colonization)
	Spotted dove <i>Streptopelia chinensis</i>	Resident in surrounding urban area	No records	Extirpation

Family	Species	1980	Present	Change
	Mourning dove <i>Zenaidura macroura</i>	25+ in Nov.; otherwise up to 4 year-round	Up to 27 in late fall; single-digits rest of year	N/A
Swift	White-throated swift <i>Streptoprocne zonaris</i>	Listed by Schleicher (1974)	No records	N/A
Hummingbirds	Anna's hummingbird <i>Calypte anna</i>	Up to 3 in winter	Up to 11, with juveniles heard in myoporum grove (24 Feb.)	Increase/ Colonization as breeder
	Allen's hummingbird <i>Selasphorus sasin</i>	No records	2 on 27 Apr.	N/A
Kingfisher	Belted kingfisher <i>Megasceryle alcyon</i>	Up to 3 in winter	1 on three dates in fall/winter	N/A
Woodpecker	Northern flicker <i>Colaptes auratus</i>	Irr. throughout year in "wooded portion"	No records	Extirpation
Flycatchers	Western wood-pewee <i>Contopus sordidulus</i>	1 in May 1980	No records	N/A
	Pacific-slope flycatcher <i>Empidonax difficilis</i>	Listed by Schleicher (1974)	No records	N/A
	Black phoebe <i>Sayornis nigricans</i>	No records	Up to three year-round	Colonization
	Ash-throated flycatcher <i>Myiarchus cinerascens</i>	Listed by Schleicher (1974)	No records	N/A
Vireo	Hutton's vireo <i>Vireo huttonii</i>	No records	1 wintered 14 Dec. 2007 - 27 Jan. 2008 (DSC unpubl. data)	N/A
Shrike	Loggerhead shrike <i>Lanius ludovicianus</i>	Resident ("commonly observed")	No records	Extirpation
Crows/Jays	Western scrub-jay <i>Aphelocoma californica</i>	1-2 year-round	1 on 23 Sept.	Extirpation?
	American crow <i>Corvus brachyrhynchos</i>	Up to 4 in Oct.; otherwise irr.	Up to 5; nesting observed in myoporum (25 Mar.) and in surrounding residential area	Colonization as a breeder
	Common raven <i>Corvus corax</i>	1 overhead Apr.	No records	N/A
Swallows	No. rough-winged swallow <i>Stelgidopteryx serripennis</i>	No records	Singles in spring	N/A
	Barn swallow <i>Hirundo rustica</i>	Small #s late spring/summer	Small #s in spring and summer	N/A
Misc. songbirds	Bush-tit <i>Psaltriparus minimus</i>	Up to 20 in fall/winter	Up to 20 year-round?	N/A
	House wren <i>Troglodytes aedon</i>	1-2 in spring	No records	N/A
	Ruby-crowned kinglet <i>Regulus calendula</i>	No records	Up to 4 in winter	Colonization
	Hermit thrush <i>Catharus guttatus</i>	Singles late fall/winter	No records	N/A
	Northern mockingbird <i>Mimus polyglottos</i>	Up to 4 year-round	1 on 3 dates	Decline?
	European starling <i>Sturnus vulgaris</i>	Common resident	Irr.; up to 10	N/A
	Cedar waxwing <i>Bombusilla cedrorum</i>	No records	30 on 27 Apr.	N/A
	Phainopepla <i>Phainopepla nitens</i>	Vagrant (1 on 7 Oct.)	No records	N/A
Wood-warblers	Orange-crowned warbler <i>Vermivora celata</i>	2 on 8 Jan.	1 on 3 dates	N/A
	Yellow-rumped warbler <i>Dendroica coronata</i>	"regularly observed" in winter	Up to 15 in winter (all but 1 were "Audubon's")	N/A
	Black-throated gray warbler <i>Dendroica nigricans</i>	No records	Up to 2 in winter/spring	Colonization
	Townsend's warbler <i>Dendroica townsendi</i>	No records	Up to 3 in winter/spring	Colonization
	Hermit warbler <i>Dendroica occidentalis</i>	No records	1 on 27 Apr.	N/A
	Wilson's warbler <i>Wilsonia pusilla</i>	1 in late Apr.	1 on 27 Apr.	N/A
	Western tanager <i>Piranga ludoviciana</i>	Singles (2) in fall	No records	N/A
Sparrows	Green-tailed towhee <i>Pipilo chlorurus</i>	Vagrant (1 in late Jan.)	No records	N/A

Family	Species	1980	Present	Change
	Song sparrow <i>Melospiza melodia</i>	“Frequent” in fall	No records	Extirpation
	White-crowned sparrow <i>Zonotrichia leucophrys</i>	Up to 60 in winter	2-3 on 2 dates	Extirpation
Blackbirds/ Orioles	Western meadowlark <i>Sturnella neglecta</i>	No records	2 on 23 Sept.	N/A
	Bullock’s oriole <i>Icterus bullockii</i>	Vagrant (1 in late Aug.)	No records	N/A
Finches	House finch <i>Carpodacus mexicanus</i>	Up to 20+ year-round	Up to 3 in fall/winter, then 10 on 27 Apr.	N/A
	Lesser goldfinch <i>Spinus psaltria</i>	“Small #s late winter”	2 on 24 Feb., 27 Apr.	N/A
Weaver	House sparrow <i>Passer domesticus</i>	Common resident	15 on 27 Apr.	N/A

* A generally coastal species reported by Schreiber and Dock (1980) almost certainly in error (150 individuals); however, this species regularly forages well up Ballona Creek as far as Centinela Ave. (DSC pers. obs.), so it is possible that it occurred and may again.

Three species have been observed nesting at Oxford Basin in 2010: the mallard (*Anas platyrhynchos*; pair with five young on 28 May), Anna’s hummingbird (*Calypte anna*; two juveniles in the myoporum grove on 24 February), and the American crow (*Corvus brachyrhynchos*; pair nest-building in the myoporum grove on 25 March). Several other species were observed using the site during the breeding season, but were breeding off-site in the surrounding residential area and ornamental landscaping, notably several species of herons and egrets (see Hamilton and Cooper 2010 for discussion).



Figure 4. California ground-squirrel at Oxford Basin, 7 May 2010 (Emile Fiesler).

Non-bird Wildlife

Mammals, reptiles, and amphibians were scarce during our surveys. On 28 May 2010, at least 10 California ground-squirrels (*Spermophilus beecheyi*) were detected (DSC), with presumed burrows scattered across the entire site; one squirrel was seen on 7 May 2010 (E. Fiesler; Figure 4) but they were not detected during the preceding fall/winter. Two non-native eastern fox squirrels (*Sciurus niger*) were observed in the myoporum grove on 24 February 2010, and evidence of their presence (including pine cone “shavings”) are easily observed.



Figure 5. Track (hind foot), likely of a striped skunk or possibly a raccoon, at Oxford Basin, 13 October 2009 (DSC).

Numerous large burrows are present toward the far eastern end of the site, within the myoporum grove (Figure 1), that likely belong to striped skunk (*Mephitis mephitis*) based on their size and the habitat (this mammal is now common and highly urban-adapted in the region). Tracks in mud seen on several visits (Figure 5) indicate the presence of either skunk or raccoon (*Procyon lotor*), another ubiquitous, urban-adapted animal in Los Angeles. The feral dogs, chickens, and domestic ducks mentioned in previous studies are no longer present (raising the height of the fence apparently helped), although several obvious hybrid/feral mallard × domestic ducks were present on most visits. Native rabbits (*Sylvilagus* sp.) that were present in the 1970s have apparently been extirpated from the site.

No lizards or amphibians were observed during the 2009/10 survey, although Schleicher (1974) lists southern alligator lizard (*Elgaria multicarinata*) as occurring, and it likely still does.

Vegetation Notes

In a concurrent study, botanist David Bramlet is documenting and mapping the plants and plant communities of Oxford Basin; this section provides a brief overview of the existing vegetation. The Basin currently supports three main habitats: open water; saltmarsh/mudflat; and ornamental vegetation/thicket. Since the vegetation of site was last assessed (in 1980), the amount of open water has remained more or less constant, the myoporum thicket that surrounds the lagoon has matured, and the extent of saltmarsh – dominated by pickleweed (*Salicornia virginica*) – formerly limited to the southern shore and eastern inlet (Gustafson 1980; see Appendix), now extends around the entire shoreline. Currently (2010), the entire northern edge of the Basin is dominated by shrubby, non-native Perez's sea-lavender (*Limonium perezii*), forming a low, purple hedge between the northern fence line and the waterline.

In addition to pickleweed, only one other native plant species noted in the 1970s still occurs at the site, wild heliotrope (*Heliotropium curassavicum*); at least one native plant species has

been lost at the site, mugwort (*Artemisia douglasiana*), which was formerly found growing with weedy, non-native species at the eastern inlet (Gustafson 1980). Other native species noted by Gustafson (1980) were apparently planted during the original landscaping (see list in County of Los Angeles 1976, in Appendix), including coyote brush (*Baccharis pilularis*) and laurel sumac (*Malosma laurina*).

Sensitive Bird Species of Oxford Basin

Compared to the nearby Ballona Wetlands, Oxford Basin supports few sensitive species. However, some deserve mention, either because they are considered noteworthy by regulatory agencies (generally the California Department of Fish and Game), or because they are particularly dependent on coastal wetland, open-country, and other scarce habitat in the region. As a note, the (draft) Marina del Rey Conservation & Management Plan includes a comprehensive discussion of all sensitive bird species known from the Marina area; this is an abbreviated list of species that appear to be using Oxford Basin, based on our surveys, and those that could potentially use a restored Oxford Basin.

California Brown Pelican (*Pelecanus occidentalis californicus*) (State Endangered)

One individual was observed on several visits during the 2009/10 surveys (Figure 6). Earlier (1970s) visits did not record this large bird, but this was likely due to its extreme rarity in the region during the 1970s, when DDT-caused eggshell-thinning infamously drove it to the endangered species list. Since then, the species has rebounded, and it is now a regular sight along the coast and well upstream along Ballona Creek (DSC unpubl. data). Because of its rarity at Oxford Basin, and the fact that it has so much (occupied) habitat nearby (hundreds roost nearly year-round on the breakwater at the mouth of Marina del Rey harbor), and due to the small size of the site, it is unlikely that Oxford Basin will ever be particularly important for the California brown pelican.



Figure 6. California brown pelican foraging at Oxford Basin, 13 October 2009 (DSC).

Snowy Egret (*Egretta thula*) (no special status)

This species recently (c. 2005) established a breeding colony (“rookery”) in tall eucalyptus, ficus, and coral trees in and around the parking lot of Yvonne B. Burke Park just east of Oxford Lagoon (Cooper 2006b), which held an estimated 69 nests of snowy egrets and black-crowned night-herons in July 2009 (Hamilton and Cooper 2010). During more than a dozen visits by DSC and RAH during July 2009, we confirmed that Oxford Basin provides important breeding-season foraging area for snowy egrets, particularly for young-of-the-year. Up to 19 individuals per day were recorded during July 2009, likely from nearby nests at Burke Park (Figure 7).

Great Egret (*Ardea alba*) (no special status)

Unrecorded by earlier surveyors (1970s), small numbers of this large wader were found during 2009/10, including young-of-the-year during summer 2009 surveys (Hamilton and Cooper 2010). Like the snowy egret, the great egret maintains a nesting colony adjacent to Oxford Basin at Yvonne B. Burke Park, albeit in much smaller numbers; additional nesting sites at Marina del Rey were documented in 2009, with an estimated Marina-wide breeding population of around five pairs.



Figure 7. Typical scene of egrets (snowy and great) foraging on the north side of Oxford Basin on 23 July 2009, near the main inlet at Washington Boulevard. These birds were probably from the nearby breeding colony along Admiralty Way (RAH).

Black-crowned Night-Heron (*Nycticorax nycticorax*) (no special status)

Long recorded at Oxford Basin during the non-breeding season (see Cooper 2006a), this medium-sized wader initiated nesting at Marina del Rey during the late 1990s. Today, several dozen pairs breed at the Marina, with a particularly large colony located just east of Oxford Basin, at Yvonne B. Burke Park. Although only relatively small numbers were observed at Oxford Basin during fall-spring (fewer than 10 birds per day), daily counts of up to 14 birds were made during July 2009 (see Figure 8), at a time of year when parents likely lead young birds to the Basin to forage in family groups (Hamilton and Cooper 2010).



Figure 8. Black-crowned night-herons – juvenile on the left, adult on the right – at Oxford Basin on 7 May 2010 (Emile Fiesler).

American Kestrel (*Falco sparverius*) (no special status)

This small raptor was found to be resident at Oxford Basin during the 1970s, but we know of no modern (post-1980) records from the site (DSC unpubl. data). As of 2010, it no longer breeds at the Ballona Wetlands, where it was once a common year-round resident. In coastal portions of the Los Angeles Basin, large vacant lots that formerly supported American Kestrels year-round have all but disappeared. At Oxford Basin, such habitat modifications as removal of myoporum and trees and maintenance of low-profile vegetation, with patches of bare ground, could possibly facilitate the kestrel’s re-establishment, at least in fall and early winter.

California Least Tern (*Sternula antillarum brownii*) (State/Fed. Endangered)

The least tern maintains one of its largest known nesting sites at south Venice Beach, just a few hundred meters from Oxford Basin. Schreiber and Dock (1980) recorded this species at the Basin, but provided only sparse details about the nature of its occurrence: “Of particular interest are California Least Terns, an endangered species that nests on nearby Venice Beach and the Ballona Wetlands, and occasionally forages on small fish in the Bird Conservation Area” (p. 4); “Observed foraging in the pond at the Bird Conservation Area in Spring and Summer, 1980” (p. 20). Unfortunately, the number of individuals observed is illegible in the table of the report.

It is possible that the California least tern currently uses Oxford Basin at least irregularly as a foraging site for birds nesting in the Venice Beach colony, as birds are regularly seen foraging for mosquitofish (*Gambusia affinis*) at Ballona Freshwater Marsh and elsewhere in the Ballona area (Cooper 2006b). Having been fenced for decades, Oxford Basin receives very little coverage by birders, and since the least tern is present locally for only a brief time window (May to early July), it is likely that any foraging here – particularly the occasional brief visit by a bird bringing food to young – would simply be unobserved. It is not likely that the California least tern would ever nest at Oxford Basin, as the site does not support the broad, sandy beach and sandbar habitat favored by this species. Rather, Oxford Basin should be seen as a potential alternative foraging site for the species during its brief late spring/early summer nesting season.

Loggerhead Shrike (*Lanius ludovicianus*) (California Species of Special Concern)

Like the American kestrel, the shrike was formerly (1970s) present at Oxford Basin but is now best considered totally extirpated. It, too, still winters (1-3 individuals per year) at the

nearby Ballona Wetlands (including at Area A adjacent to Marina del Rey), and it is possible that the shrike could occur at Oxford Basin during migration, given the establishment of bare ground and the establishment of a macroinvertebrate/small mammal fauna (e.g., large grasshoppers, Order: Orthoptera) for foraging.

Western Meadowlark (*Sturnella neglecta*) (no special status)

This species has declined sharply throughout the Los Angeles area and, as of 2010, no longer breeds in the Ballona area (DSC unpubl. data), or possibly anywhere else in coastal Los Angeles County. Two birds were observed on a grassy promontory along the north end on 13 Oct. 2009 (Figure 9). Though these were fall migrants, it is possible that small numbers of wintering birds could occur if several acres of low-profile forbs/grasses and open ground were maintained at the site, rather than the dense (non-native) trees and shrubs currently present.



Figure 9. One of two western meadowlarks observed at Oxford Basin on 23 October 2009 (DSC).

Patterns of Bird Usage

The patterns of usage documented in this report provide baseline data against which the effects of future habitat enhancements may be compared. The fact that native birds are using non-native vegetation at the site does not imply that these exotic plants are especially “important” for birds at Oxford Lagoon. All of the birds recorded in the myoporum and other landscaping at the site are commonly encountered in urban habitats throughout Los Angeles. Nearby areas with native vegetation, either naturally-occurring or restored, such as Ballona Freshwater Marsh and the Playa Vista Riparian Corridor, see much higher usage by native bird species, including regular, successful breeding by more than a dozen species.

Scientific names of bird species recorded at Oxford Basin are omitted from the rest of this report but can be found in Table A.

By Season

As found in previous studies, bird usage of Oxford Basin is highly seasonal. Overall numbers are lowest in late summer and fall (July - October), before wintering waterfowl have arrived,

and after the locally-nesting herons have raised young and dispersed. By November, small rafts of waterfowl are present that include American wigeon, lesser scaup, and American coot, joined by lower numbers of other species of ducks and grebes (Figure 10).



Figure 10. Gadwall (at far left) and American wigeon foraging on and near an exposed mudflat during draw-down of the Basin's water level in advance of anticipated rain on 23 February 2010 (DSC).

While a smattering of fall migrant songbirds can occur from late July on, the first flights of wintering songbirds, such as ruby-crowned kinglets, yellow-rumped and Townsend's warblers, appear by late October, and remain through winter into April. Bird activity dips in spring, after wintering waterfowl and wintering songbirds have departed (April), and when only a small number of ubiquitous resident species, such as the American crow and bushtit, nest in the dense myoporum grove at the far eastern edge of the site. However, on certain days from mid-April to late May, a diversity of spring transient songbirds (e.g., Wilson's warbler) may occur, typically forming small foraging flocks in the myoporum grove (but generally using any tree or shrub habitat available throughout the Marina). During summer, waterfowl are mostly absent (aside from a handful of locally-breeding mallard), but herons and egrets from local colonies forage in the Basin, their numbers augmented by locally-raised young that remain into July and August.

By Area

Though data on usage by area of the Basin was not collected during our study in 2009/10, a few broad patterns are clear. Most waterfowl were observed either resting on open water or near overhanging vegetation along the shoreline, or foraging on the wet mud exposed during a drawdown. Fish-eating species, such as the pied-billed grebe, were observed actively feeding in open water. Herons and egrets foraged around the entire shoreline, but seemed concentrated at either inflow (especially the inflow emerging from under Washington Boulevard) or at the outflow to the Marina, where they would catch fish. Several species of large waders were observed roosting in the trees surrounding the open water, particularly black-crowned night-herons in myoporum and other landscaping trees at the far eastern end. Songbirds (tree-dwelling) were found throughout the site, but were most consistently found

in and around the myoporum grove at the eastern end, especially the area where dense vegetation approached the freshwater at the eastern inlet.

Songbirds (other than the ubiquitous, non-native European starling) were almost never seen on the ground at the site, suggesting that foraging opportunities for birds like sparrows and towhees are limited, and have become even more degraded over time (see the subsequent discussion of “Faunal Change at Oxford Basin”).

Faunal Change at Oxford Basin

Birds

The historical avifauna of the Oxford Basin area *per se* is not known, since it was part of a much larger wetland system and its current configuration dates back only to the 1960s. Historically, the inland mudflats and tidal channels of the “Venice Marshes” would have supported flocks of shorebirds nearly year-round, and rafts of waterfowl in winter (“Lake Los Angeles,” situated near present-day Oxford Lagoon, was a popular duck-hunting spot through the 1950s; see, e.g., Cooper 2005). Species found in extensive, often wet grassland, such as the northern harrier (*Circus cyaneus*) and the long-billed curlew (*Numenius americanus*) were common in the Venice/Ballona area into the mid-1900s, as were dune and coastal strand specialists such as the horned lark (*Eremophila alpestris*) and large-billed savannah sparrow (*Passerculus sandwichensis rostratus*). Many of these coastal marsh, dune, and open-country species were effectively extirpated by the construction of Marina del Rey, though some – notably Belding’s savannah sparrow (*P. s. beldingi*) and a variety of waterfowl and shorebirds – maintain remnant populations at the nearby Ballona Wetlands/Ballona Creek.

As Marina del Rey has lost certain species, others have colonized novel habitats, nesting in trees near water (herons/egrets, Family: Ardeidae), or on built structures such as culverts (swallows, Family: Hirundinidae), or have simply “invaded” from the surrounding residential area. These population changes are discussed below.

Of the species that are known only from 1970s surveys, several were apparently common then and are best considered extirpated from the site at this time, a determination that is supported by recent research on bird status and distribution in the Ballona area (Cooper 2006b). Recent years have seen the apparent extirpation of three resident or year-round species from Oxford Basin: two raptors/predators (American kestrel and loggerhead shrike) and a woodpecker (northern flicker). Two species, the green heron and western scrub-jay, might be considered a part of this extirpated group as well, though only 1-3 birds each were detected during the 1970s and both species remain fairly common in the greater Marina/Ballona area year-round (Cooper 2006b). Two species of sparrows have apparently been extirpated in their local roles from the site as well – the white-crowned (formerly a winter resident) and the song (formerly occurred in fall migration).

Shorebirds appear to have been at least irregularly present at Oxford Basin during the 1970s, but seem to have essentially abandoned the site. Schreiber and Dock (1980:6) wrote, “most of the shorebirds recorded here are dependent on the mudflats for their occurrence, both to feed and rest”. Only one or two individual killdeer were seen during the recent surveys (Figure 11).



Figure 11. Killdeer on exposed mudflat at Oxford Basin on 23 February 2010 (DSC).

Other species that have apparently declined or stopped using the site include gulls and terns (gulls were apparently common at Oxford Basin in winter 30 years ago and are now rare) and possibly the northern mockingbird and the non-native rock pigeon. All of these species remain common at Marina del Rey and the surrounding urban area, so it is likely that their absence from the Basin stems from localized changes in vegetation, food supply and/or water regime.

With declines have come inevitable increases; several species have apparently established new populations at Oxford Basin that weren't present during the 1970s. Most importantly, large waders have increased dramatically. The great egret, snowy egret, and black-crowned night-heron now breed at various locations along Admiralty Way and forage at the Basin year-round, whereas during the 1970s they were only sporadic visitors to the Basin. Two species of waterfowl should be considered new "colonists," the American wigeon (high double-digits in winter) and the gadwall; interestingly, no species of waterfowl has dramatically declined at the Basin. The black phoebe, a resident and possible breeder, appears to have recently colonized the Basin. Three species were confirmed as breeders in 2009/2010, when before they occurred only in the non-breeding season: the mallard, Anna's hummingbird and the American crow. The ruby-crowned kinglet, black-throated gray warbler, and Townsend's warbler are regionally common during both migration and winter, though they were recorded at the Basin for the first time during 2009/2010.

Finally, the non-native spotted dove was considered common in residential areas Oxford Basin in the 1970s, but this species has declined greatly locally and across the Los Angeles Basin. The Eurasian collared-dove, a recent arrival to California that is starting to fill a similar niche today, was detected in the neighborhood north of Oxford Basin during this study.

[Addendum: An inactive nest high detected on 30 June 2010 in a large ficus tree along the Basin's southern border, near Admiralty Way, may have belonged to an American crow, a heron, or a raptor (see Figure 12). When discovered by DSC, there was no bird activity in

the area, and no obvious whitewash on the ground below. Given that American crows were active in this area during previous visits, including birds carrying nesting material, this was probably a crow's nest. However, it is probably best left unidentified.]



Figure 12. Unknown nest on south side of Oxford Basin, 30 June 2010; DSC).

Other Wildlife

Populations of non-avian terrestrial vertebrates have also come and gone from Oxford Basin during recent decades. Schleicher (1974:14) recorded one native reptile, the southern alligator-lizard (*Gerrhonotus* [now *Elgaria*] *multicarinatus*) and a native rabbit that was listed as “Brush rabbit” (*Sylvilagus bachmani*) but was almost certainly the desert cottontail (*S. audubonii*), a species widespread in the Los Angeles area. A 1976 EIR by the Los Angeles County Department of Small Craft Harbors also mentioned rabbits (“Other than a few rabbits...”, p. 4). The desert cottontail is still common over much of the Ballona Wetlands (including “Area A” adjacent to Marina del Rey) but no longer occurs at Marina del Rey proper, nor elsewhere in the Venice/Mar Vista area (DSC pers. obs.). We consider it extirpated from Oxford Basin. Schleicher (1974) also recorded a non-native turtle, the red-eared slider (recorded as “*Pseudemys* sp.”), a commonly released pet found widely in urban Los Angeles that will probably occur again at Oxford Basin. The Basin’s population of the California ground-squirrel was not mentioned by Schleicher, and it may be fairly recent, perhaps the result of animals displaced by ongoing development of vacant lots nearby.

Opportunities for Restoration

The avifauna of Oxford Basin is constrained by several factors, including the parcel’s small size, isolation from other wetland habitats by urban development (including numerous tall trees and two high-rise towers just to the south), current lack of regular tidal flushing, and dominance of invasive, non-native vegetation. Other factors, such as a litter and water quality, were emphasized in earlier studies but are probably only minimally impacting the birdlife of the Basin. Ballona Creek, for example, easily as polluted a water body as Oxford, sees very high usage from a much greater variety of waterbirds than does Oxford. Also, it is worth noting that the nearby (restored) Ballona Lagoon just west of Marina del Rey is also small in extent (and linear in configuration), but nonetheless supports an exceptionally high

species diversity of shorebirds compared with present-day Oxford Basin (records of 10+ species per year [C. Almdale unpubl. data] vs. 1 species at Oxford Basin during the 2009/10 survey).

Relatively simple steps could be taken to enhance Oxford Basin for birds that have been extirpated since the 1970s, and possibly even for certain species that existed in the pre-Marina del Rey wetlands. Replacing the thicket of myoporum with low-profile, native vegetation would likely result in the re-colonization of the site by white-crowned sparrows, which no longer winter there. The American kestrel might use the site with such vegetation restored, as could (migrant) northern flickers and song sparrows. These species remain common in their respective roles in the larger Ballona ecosystem where native vegetation persists or has been restored. Other migrant songbirds recorded regularly at Ballona Lagoon that could use a restored Oxford Basin include the house wren, blue-gray gnatcatcher (*Poliophtila caerulea*), common yellowthroat (*Geothlypis trichas*), and Lincoln's sparrow (*Melospiza lincolni*). None of these currently occur at the site or in typical urban/residential vegetation, and all have responded positively to restoration at Ballona Lagoon and other nearby natural areas.

With increased tidal flushing, the mudflats of Oxford Basin could once again support numbers and a diversity of shorebirds, and possibly a wider variety of waterfowl than is currently represented (just four ducks and one shorebird were detected during surveys in 2009/2010, contrasting with five species of waterfowl and at least nine species of shorebirds in 1980). With most of the historical tidal mudflat habitat lost permanently in the Marina/Ballona area (and essentially absent from the rest of the Santa Monica Bay/Los Angeles Basin south of Malibu), restoration of this habitat could have a wide-reaching, positive impact on waterbirds in the region. It is also possible that such sensitive species as the California least tern could once again use the Oxford Basin as an alternate fishing site during its breeding season.

Please refer to the draft Marina del Rey Conservation & Management Plan (Hamilton and Cooper 2010) for additional species that could benefit from restoration at Oxford Basin.

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Appendix A. Previous reports on the birds and habitats of Oxford Basin (“Bird Conservation Area”).

The following reports cited in the text are provided here as follows:

Los Angeles County Department of Small Craft Harbors. 1976. *DEIR, Proposed Japanese-American Cultural Garden, Marina del Rey*. August 19, 1976 (including “List of Plant Material at Bird Conservation Area - Marina del Rey”).

Schreiber, R. W., and Dock, C. F. 1980. *The birds of the bird conservation area, Marina del Rey, Los Angeles County*. Report to Department of Small Craft Harbors, County of Los Angeles, Marina del Rey, CA.

Gustafson, R. J. 1980. Vegetation analysis [of Bird Conservation Area, Marina del Rey]. Appendix Four of Report to Department of Small Craft Harbors, County of Los Angeles, Marina del Rey, CA.

Schleicher, C. 1974. Ornithological Study of Bird Conservation Area, Marina del Rey, California. Appendix F. *In*: County of Los Angeles, Department of Small Craft Harbors. 1976. *DEIR, Proposed Japanese-American Cultural Garden, Marina del Rey*. August 19, 1976.



COUNTY OF LOS ANGELES / DEPARTMENT OF SMALL CRAFT HARBORS

Administration Building, Fiji Way, Marina del Rey, California 90291 / 823-4571 / 870-6782



VICTOR ADORIAN
Director

AUGUST 19, 1976

DRAFT ENVIRONMENTAL IMPACT REPORT

PROPOSED JAPANESE-AMERICAN CULTURAL GARDEN, MARINA DEL REY

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COUNTY OF LOS ANGELES / DEPARTMENT OF SMALL CRAFT HARBORS
Administration Building, Fiji Way, Marina del Rey, California 90291 / 823-4571 / 870-6782



August 20, 1976

VICTOR ADORIAN
Director

DRAFT: ENVIRONMENTAL IMPACT REPORT

SECTION I - PROJECT DESCRIPTION

1. Location: Parcel P, Marina del Rey Small Craft Harbor (See Appendix A)
4350 Admiralty Way, Marina del Rey, Ca. 90291
2. Description: The proposed project would convert approximately 5 acres of bird habitat, constructed in 1962, into a Japanese-style public garden containing two gate houses with public restrooms, an arbor, an outdoor amphitheater, the importation and placement of a Japanese tea house and several artifacts, including two bridges, stone lanterns and similar art objects, the construction of rock dust walkways, and the addition of pebble surfaces in key dry and submerged areas and "Rangui" posts (natural timber pile bulkheads) along portions of the shoreline of the Oxford Drainage Basin, a storm water catchment constructed in 1960. An artificial pond and waterfall are also proposed to be added. Most of the existing vegetation will be displaced by new flowering trees and shrubs, lawn and ground covers; the existing irrigation system will be modified to suit new proposed conditions. (See Appendix B for schematic plan of project.)

Proponents of the project, proposed to be constructed with private funds and donated to the County for public use and maintenance, contend that the present premises do not sustain significant bird life, both in terms of numbers of species and numbers of individuals; that birds observed in the area are typical to the region and would return to the gardens after construction; and that the premises do not now present an attractive appearance. The proposed change in the use of the land will afford employment opportunities and a much higher order of public recreational use than presently afforded.

The estimated cost of the proposed project is \$1,306,000.

SECTION II - DESCRIPTION OF ENVIRONMENTAL SETTING

1. Historical Background:

Marina del Rey Small Craft Harbor encompasses 804 acres of real property owned and managed by the County of Los Angeles. Approximately one-half of the site was excavated by dredging to constitute navigation channels and small craft berthing basins. This construction was initiated in 1957 and substantially completed by 1962. Approximately two-thirds of the land area and one-third of the water area has been leased to private entrepreneurs for the construction and operation of public use facilities, including boat slips and ancillary facilities, shopping facilities, restaurant and residential and hotel accommodations. Refer to Appendix for complete tabulation of leasehold improvements. The remaining acreage--two-thirds of the water area, one-third of the land area--is under the development and/or operational control of the County's Department of Small Craft Harbors.

The construction of the harbor interrupted certain natural drainage features in the locale, as a result of which various storm drain projects were constructed concurrently. One such was the Oxford Drainage Basin, a storm water catchment of about 5 surface acres, intended to receive storm runoff at such times as the state of the tide within the harbor precluded its discharge causing inundation of low-lying lands adjacent to the north section of the harbor. The basin is equipped with a tide gate which closes to prevent tidal flooding of the low-lying areas and opens to release impounded waters when the tide is low. The lowest level of the tide experienced in this vicinity is -1.7' MLLW; the highest is +7.8'. The average daily range is on the order of 5 feet. The Oxford Drainage Basin and its appurtenant structures is under the operational control of the Los Angeles County Flood Control District.

At the time the Oxford Drainage Basin was constructed, various naturalist organizations requested that the Board of Supervisors set aside this parcel as a wildlife sanctuary, particularly for birds. In January, 1963, the Board designated Parcel P as the Bird Conservation Area. Plant materials were selected and planted to afford nesting, roosting and feeding capabilities. A band of dense shrubbery was planted along the periphery fence to afford privacy and minimize the impact of nearby streets and activity areas. A few years later, about 1965, fill was imported to construct a mound along the northeasterly property line and the area replanted and irrigated in an effort to further improve the habitat.

SECTION II (continuation)

2. Current Environmental Setting:

The premises encompass 10.716 acres, approximately half of which is submerged, and is bounded as follows:

- . Along the northwest boundary by Washington Street, a secondary highway;
- . Along the north boundary by a 60-foot railroad right of way belonging to the Southern Pacific Transportation Co. which has applied for authorization to abandon its infrequent rail service;
- . On the east by Parcel Q, currently unimproved and vacant. This property is identified for public parking on the harbor's master development plan and the project proponents propose that a parking lot be constructed to serve the project;
- . Along the southeast side by Admiralty Way, a heavily travelled harbor thoroughfare.
- . On the southwest side by a public parking lot (Parking Lot "OT") operated by the Department of Small Craft Harbors.

A portion of the South Bay Bicycle Trail traverses the north side of the premises parallel with the railroad between Washington Street and Parcel Q. It is a 16-foot wide asphaltic concrete strip within a 20-foot right of way and is fenced on both sides. All of the foregoing are identifiable on the project plans and aerial photos enclosed.

A complete list of plant materials installed in the Bird Conservation Area is provided in Appendix D. Most of it was planted between 1964 and 1968. The lack of an adequate irrigation system resulted in a heavy loss of first plantings. A few trees died after reaching substantial growth. This was attributed to deep tap roots reaching the salt water level. However, ^{with the aid of improved irrigation} most species have survived well ^{since} and grown as expected. [^]Pyrocantha introduced in 1974 has not propagated as well as expected and may be inhibited by either soil or climate or both. Soil tests and analysis will be necessary to determine the nature of treatment, if any, required to sustain desired exotic plant materials.

In 1973, between June 14 and November 30, an inventory of bird life by observation and cataloguing was completed by Mr. Carter Schleicher, a biology major enrolled at California State University, Humboldt. His report and recommendation is attached as Appendix F. No nests were found in the area and, with few exceptions, most birds sighted during this period are quite common throughout the region.

DRAFT ENVIRONMENTAL IMPACT REPORT - JAPANESE GARDEN, MARINA DEL REY

SECTION II (continuation)

In 1965, the apparent lack of bird life prompted the importation of a flock of domestic ducks from Alondra Park. The flock was augmented from time to time by citizens wishing to get rid of pet ducks and, occasionally chickens. While the presence of these birds delighted many children, who watched and fed them through the fence along Washington Street, it became apparent that it not function as a lure to wild birds. Mr. Schleircher recommended their removal and a new home was found for them away from the Marina. However, "donations" of individual birds by tossing them over the fence continue and the crowing of roosters has brought several complaints from nearby apartment tenants.

Other than a few rabbits, there is little evidence of the presence of mammals or reptiles on the premises. However, a deliberate study has been initiated by personnel of the County's Museum of Natural History and the results will be distributed to recipients of this EIR for correlated review and comment.

The existing basin is kept submerged with salt water during the dry season with a maximum pool elevation of about +3' MLLW. The tide control gate is set to permit flows in and out with the daily harbor tide cycles. The Flood Control District may lower the pool level to about -1' MLLW in advance of expected winter storms. During the summer months, the low flows of fresh water into the pond create a brackish condition, particularly in the shallow East end, and there is a high incidence of algae and grass growth. There appears to be a thick mat of decomposed plant material over much of the bottom of the basin and Mr. Schleicher reported a "white cob-webby fungus." Various species of fish have been casually observed in the pond. However, no formal study has been accomplished heretofore. A comprehensive study of the nature and magnitude of marine life now present in the harbor waters, including the Oxford Drainage Basin, by a team from the University of Southern California has been commissioned by the County. The results of the study are not expected to be finalized before the latter part of 1977. A separate investigation of the "mud flats" areas of the basin where shore birds have been observed feeding will be made and reported concurrently with the data regarding animal life. The proposed project will not significantly affect the water areas except where pebble surfaces are proposed to be installed in shallow areas. Measures to obviate the undesired grass and algae will have to be devised and provided.

In addition to the Flood Control District's inlet and outlet structures, located on the property, a mainline sanitary sewer and water and power transmission facilities belonging to the City of Los Angeles traverse from East to West approximately 60-feet South of and parallel with Washington Street.

List of Plant Material at
Bird Conservation Area --
Marina del Rey

Punicum (Pomegranate)	Abelia
Pampas Grass	Myoporum
Oleander	California Pepper
Pyracantha	Lagenaria
Hakea	Fruiting Loquat
Aleppo Pines	Tam Juniper
Armstrong Juniper	Eucalyptus Glomerata
Hybiscus	Baccaris Pilularis
Monterey Pine	Bouganvillea
Cistus (Rock Rose)	Catalina Cherry
Sycamore	Sumac (Rhus ?)
Meleleuca Species	Lonicera (Honeysuckle)
Acacia Species	Fremontia
Thompson Seedless Grapes	

8/17/76
LWS

THE BIRDS OF THE BIRD CONSERVATION AREA
MARINA DEL REY, LOS ANGELES COUNTY

RALPH W. SCHREIBER and CHARLES F. DOCK

Report to

Department of Small Craft Harbors
County of Los Angeles
Administration Building, Fiji Way
Marina del Rey, California 90291

From

Ornithology Section
Natural History Museum, Los Angeles County
900 Exposition Boulevard
Los Angeles, California 90007

DEPARTMENT OF SMALL CRAFT HARBORS	
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The Birds of the Bird Conservation Area

Marina del Rey, Los Angeles County

Ralph W. Schreiber and Charles F. Dock

Introduction

The "Bird Conservation Area" (BCA) is 10.7 acres known as Parcel P on the northwest corner of the Marina del Rey Small Craft Harbor, Los Angeles County, California. The BCA was so designated in 1963 by the County Board of Supervisors and is primarily fenced and planted land surrounding a storm water catchment basin. Various proposals have been made to improve this region for public use over the years. Under the California Coastal Act of 1976, regarding environmentally sensitive habitat areas (Sec. 30240), any such project must consider the effects of changes in the land on the biotic community. The present study was designed to determine the bird use of the region. This study is a portion of a larger study on the total avian populations of the Ballona wetlands, but this report deals only with the Bird Conservation Area (Dock and Schreiber, 1980, The Birds of Ballona Wetlands, Los Angeles County, California, Submitted to California Coastal Commission).

Summary

Based on weekly surveys during 17 months between October

1978 and August 1980 of the birds of the "Bird Conservation Area," we conclude that this area is not important as habitat for wild birds in the Los Angeles basin. While it serves as "green belt" space and as an area for a limited but important number of people to enjoy seeing and feeding domestic ducks, the area serves little or no purpose as a conservation area for a viable population of migratory or resident wild species. Because of its limited size and relative isolation, we believe that any efforts at habitat modification would have little or no effect at increasing the wild avian populations in the region. Certain modifications could make it more conducive for the domestic animals and as green space.

Methods

Avian populations of the Los Angeles County Bird Conservation Area (BCA) were studied from August 11, 1979 to August 8, 1980. Censuses were conducted on a weekly basis. Two censuses per week were made during all times when migrant and wintering birds were likely to alter the usual species composition of the area. Counts were usually made during morning hours, when terrestrial bird species are most active, but frequent afternoon studies were also conducted to assess the effects of time of day on census results. Relative water levels and weather conditions were recorded during each visit. Birds were systematically counted from the periphery of the pond. The area was circled slowly and all bird species and individuals observed were recorded. Each sampling period lasted approximately one hour. All species identifications were made with the aid of 9x35 binoculars.

A preliminary investigation was conducted from October 7, 1978 to April 14, 1979. Data obtained in this study are presented in Appendix 2. That study was conducted by other investigators, and data obtained were not included in the analysis of the yearly cycle, to assure strictly comparable comparisons. Daily comparisons of morning and afternoon censuses were made during this earlier study, and results of this investigation are discussed. Data on these daily comparisons are presented in Appendix 3.

Habitats

An account of the vegetation occurring at the Bird Conservation Area is given in Appendix 4, including a generalized map (Fig. 1). Birds, however, tend to respond to the structure of the vegetation rather than specific plant species in most instances. The following habitat classification appears to reflect patterns of bird utilization and is based generally on vegetation structure.

Open Water

This habitat includes the principal water mass and purely aquatic vegetation (e.g. algae). This habitat is primarily important as foraging and resting area for ducks, geese and coots. Occasionally, other species of waterbirds are seen on the water, including gulls and cormorants. Belted Kingfishers, herons and egrets forage in the shallow margins of the main water mass. Of particular interest are California Least Terns, an endangered species that nests on nearby Venice Beach and the Ballona Wetlands, and occasionally forages on small fish in the Bird Conservation Area.

Pickleweed

Pickleweed, Salicornia virginica, is found in a narrow strip along the southeastern border of the pond and along the margins of the inlet channel. This vegetation type is generally associated with salt marshes and is of interest as bird habitat primarily because Belding's Savannah Sparrow, an endangered species, is restricted to Pickleweed associations.

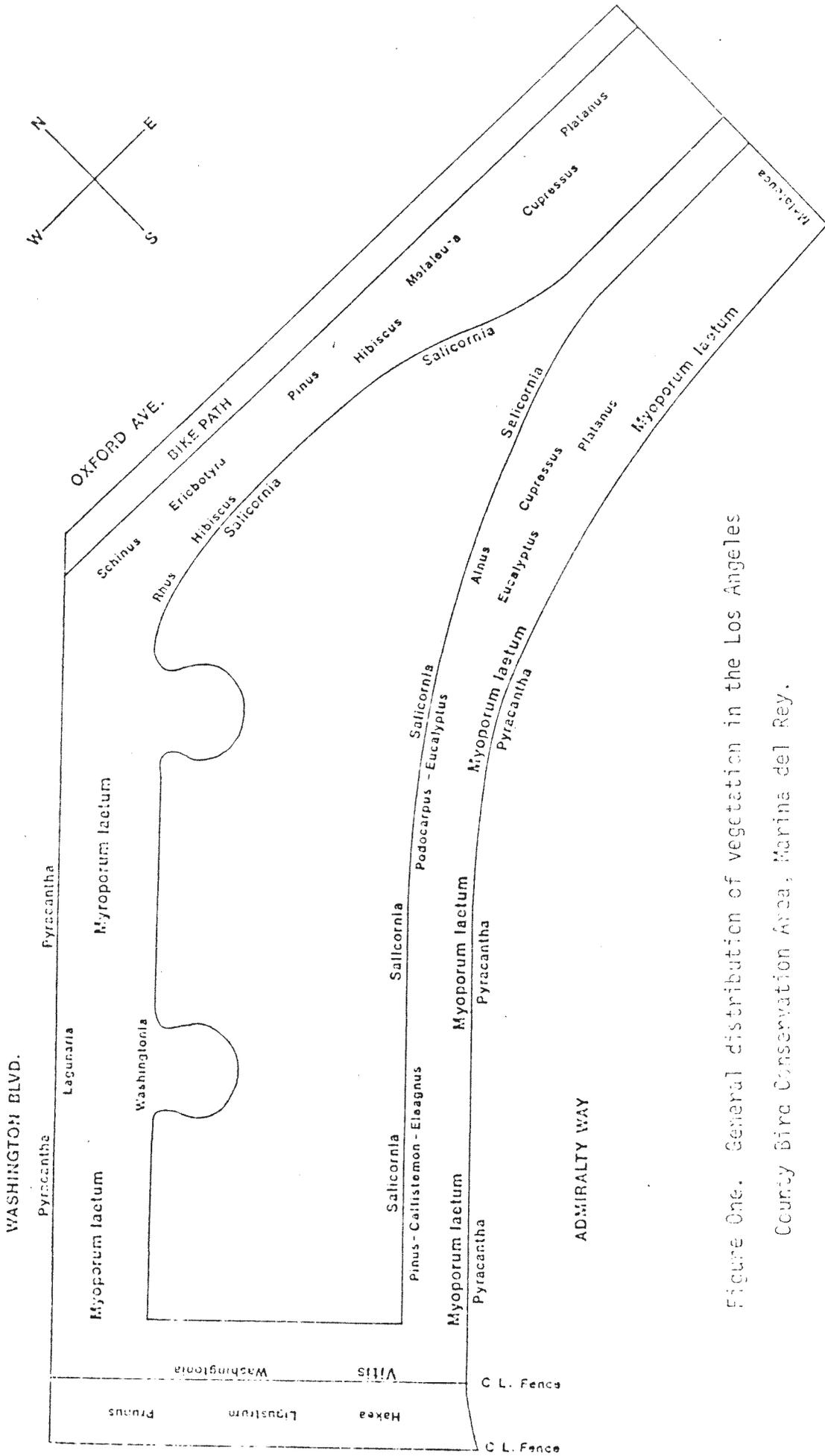


Figure One. General distribution of vegetation in the Los Angeles County Bird Conservation Area, Marina del Rey.

Pickleweed habitat at the BCA is of very limited extent, however, and does not support a population of Belding's Sparrows. During the course of this investigation, not a single individual of this species was recorded. Pickleweed at the BCA is used primarily for cover by the resident ducks, and to a lesser extent by Song Sparrows and Mockingbirds as foraging grounds.

Mudflats

When water levels are low, mudflats are exposed along the northwestern shore of the pond. This habitat type is important to a number of species that regularly or occasionally occur at the BCA. Most of the shorebirds recorded here are dependent on the mudflats for their occurrence, both to feed and to rest. The mudflats are also used as loafing grounds by gulls, ducks and coots.

Trees

Trees of several species cover much of the grounds surrounding the pond. These trees provide shade and general cover for the resident ducks, geese and chickens. In addition, they are used as perching sites for a number of species and nesting sites for Mockingbirds, Starlings, Jays and possibly a few other common birds. The most common nesting species is the Starling. In Spring, 1980, a sizable colony bred in the trees along the northwestern shore.

Undergrowth

In certain portions of the area, particularly along the southeastern shore, various herbaceous plants occur sporadically

under the canopy. This undergrowth provides cover and foraging substrate for migrant terrestrial birds, including thrushes, wrens and especially White-crowned Sparrows. During the winter months, White-crowned Sparrows are found regularly in fairly large numbers in this particular habitat. Much of the area beneath the trees is devoid of vegetation, in part because of shading, but primarily due to the concentration of domestic fowl and domestic ducks. The ducks also use the existing undergrowth as cover for breeding activities, although reproduction in the duck population at present appears limited.

Shrubs

Large shrubs are scattered over the more open portions of the area, particularly along the northern border. These plants are used as foraging sites by House Finches, jays and Mockingbirds. White-crowned Sparrows commonly forage on the ground underneath the shrubs. Hummingbirds nest only in these fairly open areas where the shrubs provide not only nest sites, but also perches for display and observation.

Grasses and Herbs

Various species of grasses and herbs occur over much of the grounds. These plants provide a seed supply for finches, sparrows, Mourning Doves and Spotted Doves.

Results

Figure 2 shows changes in total species and total waterbird species recorded throughout the yearly cycle. Neither parameter exhibits particularly dramatic seasonal changes, and in fact are rather remarkable for their consistency. A few more species use the BCA in the fall and winter than in spring and summer. These minor differences are due to the seasonal presence of migrants, including ducks, Coots, California Gulls, White-crowned Sparrows and assorted occasional terrestrial species.

Seasonal differences in total numbers of individuals and numbers of individual waterbirds are shown in Figure 3. Seasonal differences in numbers of individuals are greater than seasonal differences in numbers of species. Some of the migrants are fairly abundant in winter, particularly coots and White-crowned Sparrows, which affect these figures markedly. Differences in waterbird numbers are especially influenced by changes in the status of the American Coot population as can be seen from an examination of Figure 4. Only stragglers are present in the summer, while considerable numbers are present during the winter months. Other waterbirds contribute relatively little to changes in overall numbers of individuals, being present as single individuals or small flocks.

Most of the individual waterbirds present on the area are domestic ducks and mallards that are year-around residents. Most of the variation in numbers of these birds, as shown in Figure 5, reflect census difficulties and not actual changes in the populations. At different times, the birds may be

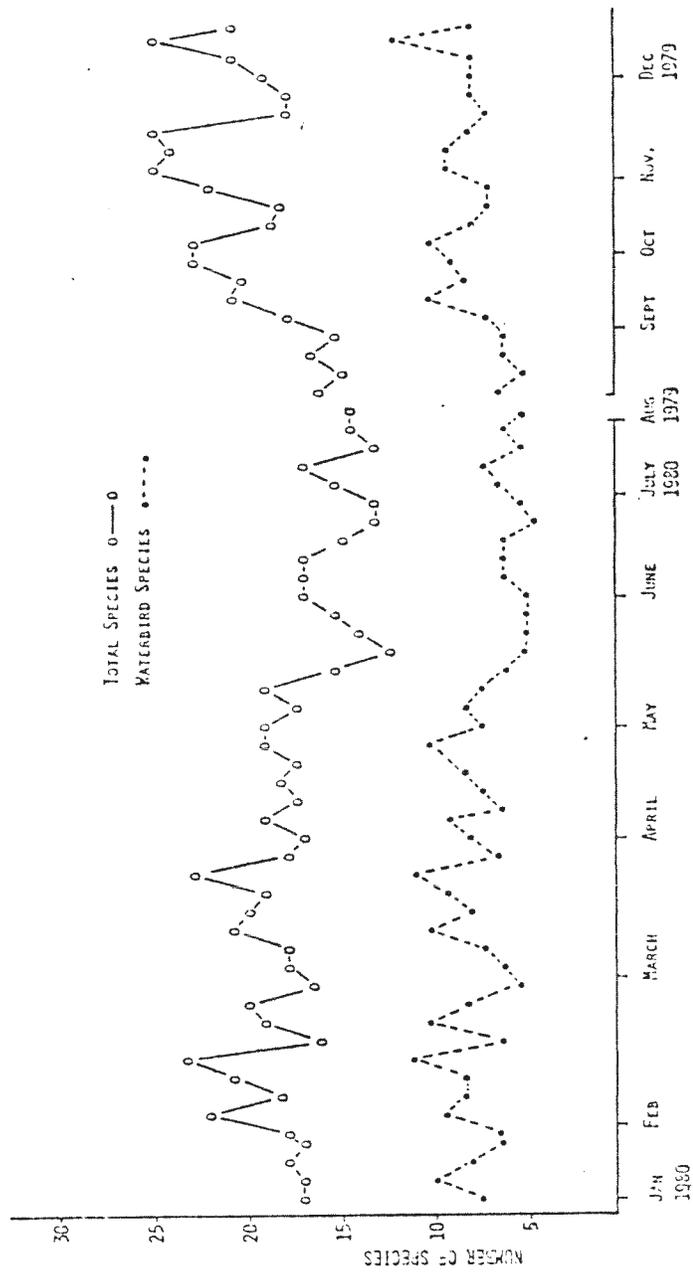


Figure Two. Total number of species and total waterbird species observed on individual censuses from August 1979 through July 1980.

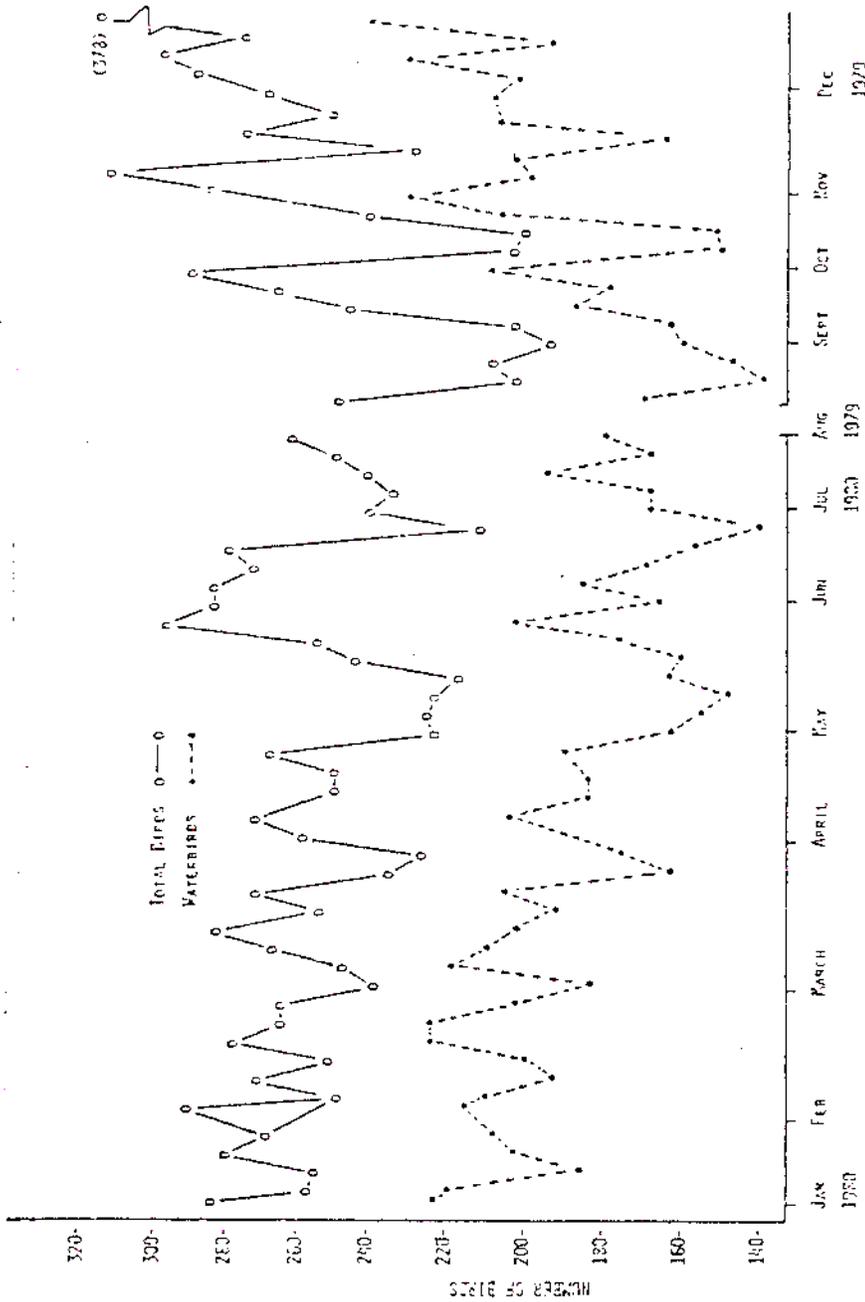


Figure Three. Total number of individual birds of all species and total number of waterbirds observed on individual censuses from August 1979 through July 1980.

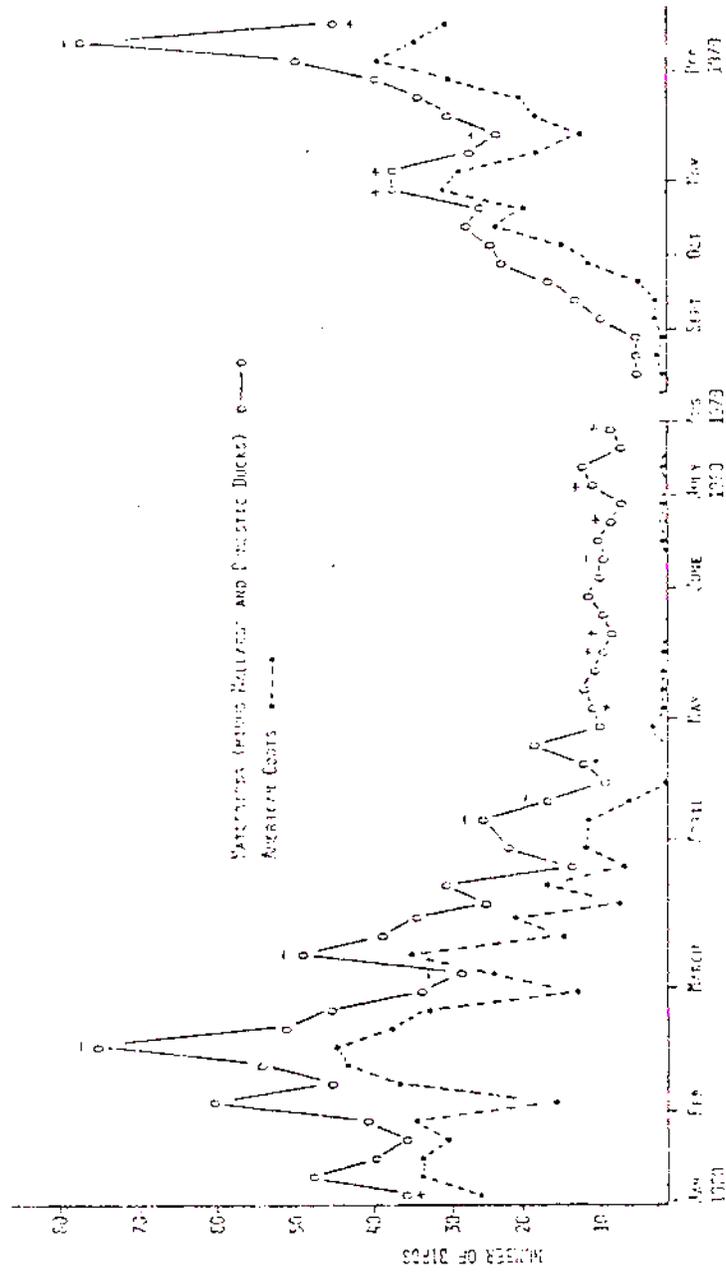


Figure Four. Total number of waterbirds, exclusive of resident Mallards and Domestic Ducks, and total number of American Coots observed on individual censuses from August 1979 through July 1980. Pluses (+) indicate times of particularly high water levels; minuses (-) indicate times of particularly low water levels.

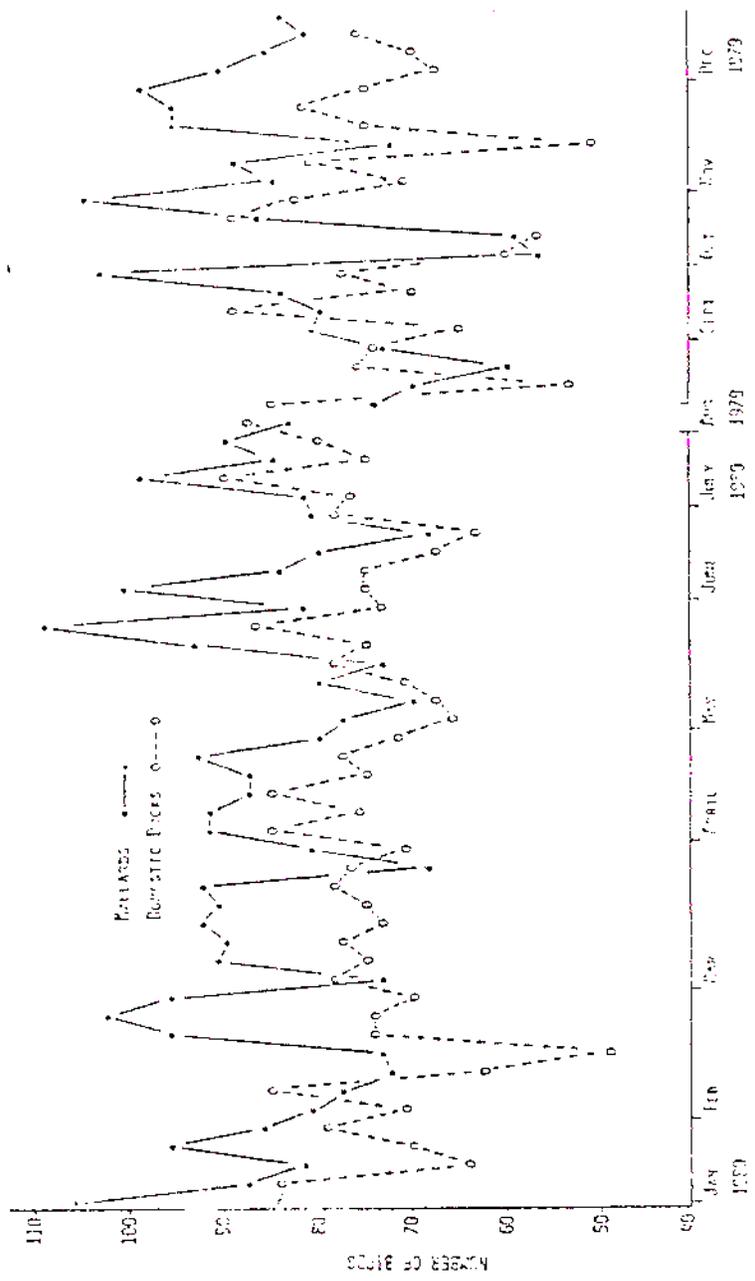


Figure 5. Total number of Mallards and Domestic Ducks observed on individual censuses from August 1979 through July 1980.

concentrated on the open water, or may be found primarily loafing or feeding under the trees adjacent to the pond. The ducks are much easier to census on the water than when they are in the vegetation.

The mallards and domestics breed to a limited extent within the BCA, and hybridization between the two forms is quite common. This reproduction is possibly contributing to a gradual increase in numbers of ducks through time, although there is significant mortality in the populations. A number of dead ducks were observed during the course of this investigation. Much of this mortality is apparently due to predation from dogs, which were frequently seen inside the fence and were observed pursuing the ducks on several occasions. There may also be limited interchange of individuals between the BCA and the nearby Venice Canal system, although no individuals were actually observed flying between the two locations.

A complete tabulation of birds observed during the study, and their times of occurrence is given in Appendix 1.

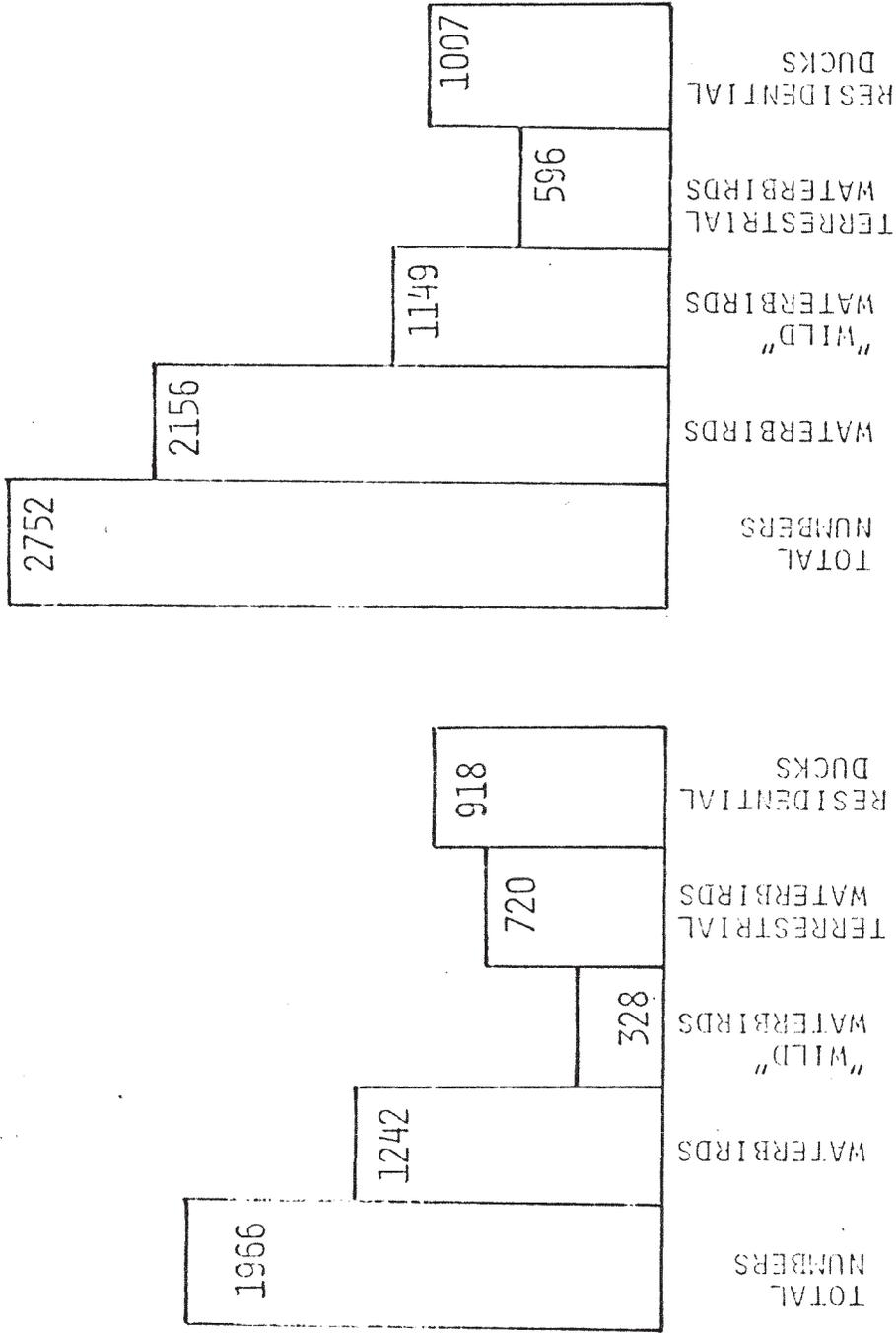
Non-seasonal Factors Affecting Bird Utilization

At low water levels, fairly extensive areas of mudflat are exposed along the northwest side of the pond, while virtually no mudflat is exposed at high water levels. Many shorebirds, gulls and terns utilize mudflats for feeding and/or loafing. Figure 4 shows the number of waterbirds in relation to particularly high and low water levels. No completely consistent pattern emerges, but particularly low water levels in winter tend to be associated with increased waterbird usage. This

becomes more apparent if differences between total waterbird numbers and American Coot numbers are considered. Additional species (other than coots) tend to contribute more to overall waterbird numbers during periods when more mudflat is exposed.

Certain species exhibit fairly predictable daily patterns of movement over their home range. In the Spring of 1979, same-day censuses were conducted in both mornings and afternoons over an eleven-week period to determine the effect of time of day on census numbers. The results of this study are summarized in Figure 6. More birds were recorded in the afternoon censuses than in early morning censuses. Most of this difference in numbers of individuals was attributable to an increase in waterbirds present in the afternoon. As can be seen from the figure, the numbers of terrestrial birds and resident ducks recorded remained relatively constant, as would be expected. More wild waterbirds were present on the area in the afternoon than in the morning. In particular, the number of gulls present at the study site increased in the afternoon.

While the overall differences are not dramatic, we tentatively conclude that more waterbirds are present at low water levels than at high water levels, and more individuals use the area in the afternoon than in the morning.



A M.

P M.

Figure Six. Numbers of birds observed during morning and afternoon censuses over eleven week period from 20 January 1979 to 14 April 1979.

SPECIES ACCOUNTS

ORDER PODICIPEDIFORMES
FAMILY PODICIPEDIDAEEARED GREBE Podiceps nigricollis

Common migrant and winter visitor on protected coastal waters. One to three individuals were observed regularly on open water at the Bird Conservation Area from mid-October, 1978 to mid-January, 1979.

WESTERN GREBE Aechmophorus occidentalis

Common migrant and winter visitor offshore and occasionally on quiet inshore waters. Observed occasionally during winter months on open water at Bird Conservation Area.

PIED-BILLED GREBE Podilymbus podiceps

Fairly common migrant and winter visitor to protected bodies of both fresh and salt water. Individuals may occasionally be observed in summer. One to three individuals were regularly recorded at the Bird Conservation Area from late summer to early spring.

ORDER PELICANIFORMES
FAMILY PHALACROCORACIDAEDOUBLE-CRESTED CORMORANT Phalacrocorax auritus

Common offshore species in all seasons but less numerous in summer. Most local adults breed on the Channel Islands. Occasional vagrants observed in the fall and winter, resting on open water at the Bird Conservation Area.

ORDER CICONIIFORMES
FAMILY ARDEIDAEGREEN HERON Butorides striatus

Common resident around shallow water containing vertebrate and/or invertebrate prey. Breed in a variety of locations in southern California. Individuals commonly observed in all seasons around the Bird Conservation Area.

SNOWY EGRET Egretta thula

Common transient and winter visitor around fresh and salt water. Observed sporadically on mudflats from fall to late spring.

BLACK-CROWNED NIGHT HERON Nycticorax nycticorax

Uncommon transient and winter visitor in southern California. A pair of juveniles was observed on several occasions in late winter and spring in the trees surrounding the Bird Conservation Area.

ORDER ANSERIFORMES
FAMILY ANATIDAE

WHISTLING SWAN Olor columbianus

Uncommon winter visitor in coastal southern California. Single individual observed at Bird Conservation Area from September to early November.

DOMESTIC GOOSE Anser anser

Birds on area probably intentionally released. Several birds resident on Bird Conservation Area. Bred on area in Spring, 1980.

MALLARD Anas platyrhynchos

Wild birds are common southern California residents, with numbers increasing in winter with influx of migrants. Common residents on Bird Conservation Area. Commonly hybridize with domestic ducks.

DOMESTIC DUCK Anas platyrhynchos

Common "pets"; also raised commercially. Common residents on Bird Conservation Area.

CINNAMON TEAL Anas cyanoptera

Common migrant and winter visitor in coastal southern California, particularly in fresh water and wet agricultural fields. One individual observed at the Bird Conservation Area in early May, 1980.

AMERICAN WIDGEON Anas americana

Common migrant and winter visitor on protected fresh and salt water situations in southern California. A single individual was observed on the pond in mid-November, 1978.

GREATER SCAUP Aythya marila

Uncommon winter visitor in southern California. Small flocks observed in winter at Bird Conservation Area.

LESSER SCAUP Aythya affinis

Common winter visitor and migrant on quiet water. Small flocks observed regularly from December through March at the Bird Conservation Area.

BUFFLEHEAD Bucephala albeola

Regularly seen in small numbers during winter in southern California. Single individuals observed in late October on the Bird Conservation Area.

ORDER FALCONIFORMES
FAMILY FALCONIDAE

AMERICAN KESTREL Falco sparverius

Common resident in open areas with natural or man-made perch sites. Observed commonly in all seasons on tall perch sites around the Bird Conservation Area.

ORDER GALLIFORMES
FAMILY GALLIDAE

DOMESTIC FOWL Gallus gallus

Common "pets" and commercial birds. Several individuals resident in wooded portions of Bird Conservation Area. Exist primarily on food items provided by passersby.

ORDER GRUIFORMES
FAMILY RALLIDAE

AMERICAN COOT Fulica americana

Common resident in fresh water marshes, ponds, and slower-moving streams and canals. Year-round resident on Bird Conservation Area, but numbers greatly increase in winter.

ORDER CHARADRIIFORMES
FAMILY CHARADRIIDAE

SEMI-PALMATED PLOVER Charadrius semipalmatus

Common fall and spring transient and winter visitor to coastal mudflats. Three individuals were observed on the mudflats in October, 1978.

KILLDEER Charadrius vociferus

Common resident near fresh and salt water and in wet fields and meadows. Observed sporadically in all seasons on mudflats around pond.

BLACK-BELLIED PLOVER Pluvialis squatarola

Common winter visitor and migrant on mudflats along coast. Small numbers found on mudflats of the Bird Conservation Area in winter.

FAMILY SCOLOPACIDAE

SPOTTED SANDPIPER Actitis macularia

Fairly common spring and fall transient and winter visitor, primarily around fresh water. Individuals observed sporadically from September to May, primarily along water's edge at the Bird Conservation Area.

WILLET Catoptrophorus semipalmatus

Common visitor in all seasons on mudflats, beaches, and marshes, but does not breed in region. Observed commonly foraging and loafing on mudflats. Numbers greatest from late summer through the winter, and least in early summer.

GREATER YELLOWLEGS Tringa melanoleuca

Fairly common as migrant, less common as winter visitor at marshes, mudflats and shores of ponds. Two individuals were seen on a single occasion on the mudflats in late November, 1978.

RED KNOT Calidris canutus

Rare fall migrant in salt marshes and mudflats. Two individuals seen on mudflats in late November, 1978.

WESTERN SANDPIPER Calidris mauri

Common spring and fall transient and fairly common winter visitor on mudflats or moist shores of both fresh and salt water. Observed sporadically on mudflats during the winter months.

MARBLED GODWIT Limosa fedoa

Common winter visitor and migrant on mudflats, beaches and marshland along coast. Occasionally seen in wet areas further inland. A single individual was seen on the mudflat in Fall, 1979.

SANDERLING Calidris alba

Common migrant and winter visitor along beaches of coast. Somewhat less common on mudflats. One large flock (150 individuals) observed on the mudflats in late November, 1978.

FAMILY LARIDAE

WESTERN GULL Larus occidentalis

Common resident in coastal southern California, but restricted to offshore islands for breeding, south of San Luis Obispo County. Observed irregularly from throughout year loafing on mudflats.

HERRING GULL Larus argentatus

Fairly common to uncommon winter visitor along coast. Rarely observed inland. Three individuals observed on Bird Conservation Area in January, 1979.

CALIFORNIA GULL Larus californicus

Common spring and fall transient and winter visitor. May be found in virtually any open area with nearby water, but more common along coast. Observed irregularly on mudflats from late summer through the winter.

RING-BILLED GULL Larus delawarensis

Common visitor in all seasons. Numbers diminish appreciably in summer. May be found in variety of habitats where some moist ground is available for foraging. A regular visitor on mudflats and open water in all seasons.

BONAPARTE'S GULL Larus philadelphia

Very common migrant and winter visitor around protected waters and wet agricultural fields along coast. Occasionally observed on mudflats and open water in the fall and winter months.

HEERMANN'S GULL Larus heermanni

Primarily late summer and fall visitor. Some individuals present in all seasons. Restricted to coastal areas. Occasional vagrants observed loafing on mudflats during fall and winter.

FORSTER'S TERN Sterna forsteri

Common migrant and winter visitor around bays, lagoons and other protected waters along coast. Occasionally observed on mudflats in fall and winter.

LEAST TERN Sterna albifrons

Uncommon summer visitor, from late April to September or October along protected portions of coast. Formerly nested on upper beaches at a number of locations as far north as Monterey County. Breeding now limited to a small number of managed sites in southern California. Observed foraging in the pond at the Bird Conservation Area in Spring and Summer, 1980.

ORDER COLUMBIFORMES
FAMILY COLUMBIDAEROCK DOVE Columba livia

Common resident in urban, suburban and agricultural areas. Resident in urban areas surrounding wetlands. Common resident of urban area around Bird Conservation Area.

MOURNING DOVE Zenaida macroura

Common resident in open woodlands, agricultural areas, parks, residential areas. Numbers increase in winter. Commonly observed in all seasons in trees and open areas.

SPOTTED DOVE Streptopelia chinensis

Common resident in urban areas of coastal southern California, which comprises its entire North American range. Introduced. Resident in urban areas surrounding the Bird Conservation Area.

ORDER APODIFORMES
FAMILY TROCHILIDAEANNA'S HUMMINGBIRD Calypte anna

Common resident in open woodland, shrubland, parks and residential areas with appropriate vegetation. Observed in all seasons. Generally restricted to upland habitats with open shrubs providing perch sites.

ORDER CORACIIFORMES
FAMILY ALCEDINIDAEBELTED KINGFISHER Megaceryle alcyon

Fairly common resident near waters containing fish. A pair of kingfishers probably nests at the Bird Conservation Area.

ORDER PICIFORMES
FAMILY PICIDAECOMMON FLICKER Colaptes auratus

Common resident in open woodlands and parks throughout basin. Observed irregularly throughout the year in wooded portions of the study site.

ORDER PASSERIFORMES
FAMILY TYRANNIDAE

WESTERN WOOD PEWEE Contopus sordidulus

Common spring and fall migrant and transient in wooded areas, usually near water. Nests in Riparian Woodlands of nearby mountains. A single individual was observed in trees surrounding pond in May, 1980.

OLIVE-SIDED FLYCATCHER Nuttallornis borealis

Uncommon to rare transient in wooded regions of coastal southern California. Three individuals were recorded in trees around the Bird Conservation Area in January, 1979.

FAMILY HIRUNDINIDAE

BARN SWALLOW Hirundo rustica

Fairly common migrant and occasional summer resident in open areas near water. Requires mud for nest construction. Small numbers of individuals observed foraging over open water in late Spring and Summer, 1980.

FAMILY CORVIDAE

SCRUB JAY Aphelocoma coerulescens

Common resident in woodland, chaparral and urban areas with trees. A common resident of wooded urban areas. Observed commonly in trees and shrubs at the Bird Conservation Area.

COMMON RAVEN Corvus corax

Common resident in rocky areas of the foothills and mountains around the Los Angeles Basin. Less common within the city than the Common Crow. A single individual was observed soaring over the area in April, 1980.

COMMON CROW Corvus brachyrhynchos

Common resident in parks, suburbs and agricultural areas around the basin. Commonly observed soaring over areas in all seasons. Sometimes perch in trees.

FAMILY PARIDAE

COMMON BUSHTIT Psaltriparus minimus

Common resident of chaparral and coastal sage habitats in basin foothills. Flocks disperse widely outside breeding season. Small flocks were observed on four occasions in Winter, 1979, foraging in the trees and undergrowth at the Bird Conservation Area.

FAMILY TROGLODYTIDAE

HOUSE WREN Troglodytes aedon

Fairly common but patchily distributed resident in thickets and woodland edges. Northern birds transient in southern California in winter. Single individuals observed in late fall and winter in undergrowth at Bird Conservation Area.

FAMILY MIMIDAE

MOCKINGBIRD Mimus polyglottos

Common resident in urban areas and along edges of brushlands and woodlands. Common resident in urban areas. Regularly observed in trees and shrubs around pond. Probably nest at the Bird Conservation Area.

FAMILY TURDIDAE

HERMIT THRUSH Catharus guttatus

Fairly common transient and occasional winter visitor in lowland southern California. Breeds at higher elevations. Single individuals observed sporadically in late fall and winter amid undergrowth at Bird Conservation Area.

FAMILY PTILOGONATIDAE

PHAINOPEPLA Phainopepla nitens

Uncommon transient in lowlands and foothills surrounding Los Angeles Basin. One individual was observed in the trees around the Bird Conservation Area in October, 1978.

FAMILY LANIIDAE

LOGGERHEAD SHRIKE Lanius leudovicianus

Common resident in areas with lookout perches and open areas for foraging. Commonly observed perched on trees or shrubs in all seasons.

FAMILY STURNIDAE

STARLING Sturnus vulgaris

Common resident around human habitation. Nest in large numbers in and around the Bird Conservation Area, where they are common throughout the year.

FAMILY PARULIDAE

ORANGE-CROWNED WARBLER Vermivora celata

Common breeding resident in foothills and lower mountain slopes around Los Angeles. Most individuals winter further south, but some remain throughout year. Two individuals observed on area in January, 1979.

YELLOW-RUMPED WARBLER Dendroica coronata

Common migrant and winter visitor; breed at higher elevations. Regularly observed in trees, shrubs and tall annuals from October to early April.

MACGILLIVRAY'S WARBLER Oporornis tolmiei

Fairly common spring and fall migrant in scrubby habitats throughout basin. A single individual was observed in undergrowth at Bird Conservation Area in early November.

WILSON'S WARBLER Wilsonia pusilla

Common spring and fall migrant, most commonly in brushland (esp. willow thickets) near water. A single individual was observed in the trees surrounding the pond in late April, 1980.

FAMILY PLOCEIDAE

HOUSE SPARROW Passer domesticus

Common resident around human habitation. Introduced. Small flocks may be observed regularly foraging in trees and undergrowth along periphery of area in all seasons. Nest in palms and man-made structures all around the Bird Conservation Area.

FAMILY ICTERIDAE

NORTHERN ORIOLE Icterus galbula

Fairly common summer visitor in deciduous woodlands and taller trees in parks, etc. One bird was sighted in trees surrounding the Bird Conservation Area in late August, 1979.

FAMILY THRAUPIDAE

WESTERN TANAGER Piranga leudoviciana

Common spring and fall migrant. Breed in higher life zones. Single individuals observed in August and September at the Bird Conservation Area.

FAMILY FRINGILLIDAE

BLACK-HEADED GROSBEAK Pheucticus melanocephalus

Fairly common transient in basin. Breeds in open woodland and forest. Observed in trees at Bird Conservation Area in latesummer.

HOUSE FINCH Carpodacus mexicanus

Common resident in open woodland and shrubland, both inside and outside of urban areas. Flocks move around in non-breeding season. Regularly observed in all seasons foraging in trees, shrubs, grasses and herbs.

LESSER GOLDFINCH Carduelis psaltria

Common resident in areas with scattered trees and/or large shrubs. Transient in non-breeding season. Observed in small numbers during late winter in trees at Bird Conservation Area.

GREEN-TAILED TOWHEE Pipilo chlorurus

Fairly common transient in spring and fall and as winter visitor. Breed in higher elevation chaparral. Single individuals observed on two occasions within undergrowth at Bird Conservation Area n late January.

WHITE-CROWNED SPARROW Zonotrichia leucophrys

Resident within southern California area. Generally restricted to "natural" areas of a variety of habitat types for breeding. Present from early October to late spring in trees, shrubs and undergrowth.

SONG SPARROW Melospiza melodia

Common resident in appropriate habitat. Numbers increase somewhat in fall and winter. Frequently seen in fall at the Bird Conservation Area, in dense vegetation near water.

Recommendations

Based on our investigations of avian utilization of the Bird Conservation Area, we propose two options for the future: 1) Leave the area essentially unchanged; and 2) Substantially alter the available habitat.

Option 1

Our investigations indicate that the current Bird Conservation Area is not a particularly important component of the overall pattern of avian distribution in the Los Angeles Basin. A number of factors contribute to this result, the most important of which are its limited size and its relative isolation. It is clearly a very small "island" of avian habitat in an increasingly urbanized region. Contributing to this isolation is the proximity of very tall apartment complexes which effectively cut the conservation area off from the general pattern of bird movement in the surrounding vicinity. These factors would be virtually impossible to alter substantially. On the other hand, several species of birds do use the area, if only in small numbers. The domestic waterfowl currently present on the area are of interest to many people who live in the surrounding community. These birds subsist largely on "handouts" from interested citizens who regularly visit the site. In this regard, the Bird Conservation Area is of some recreational value to the human community. A regular schedule of maintenance which would improve the aesthetic appeal of the area would undoubtedly be appreciated. This has been suggested by some of the local citizenry encountered

during this study. In addition, stations might be created that would allow more efficient feeding of the birds and would allow better observation of the birds. Commercial waterfowl food might be provided in vending machines as it is at various other urban parks. Such a venture would probably pay for itself and would have the additional advantage of improving the nutrition of the ducks and geese. These would be low-cost measures and might well be the most popular with the general public.

Option 2

If a substantial effort is to be made to improve the current Bird Conservation Area in terms of its use by wild birds, the following recommendations should be considered.

1. Clear the area of introduced vegetation and replant with native species. This would mean an attempt to essentially reestablish a coastal scrub community on the grounds of the Bird Conservation Area. Such a program would improve the aesthetic appeal of the conservation area and could have an important educational value to the human community if information concerning the vegetation were made available to the public. Signs could be erected providing the names of the plants and historical and ecological facts pertaining to the species and coastal scrub communities in general. Such restoration measures concerning the vegetation would be likely to attract larger numbers of migrating and wintering songbirds.
2. Remove the resident domestic waterfowl and gallinaceous birds that currently inhabit the area in large numbers. Such

a move might lessen the competition for space and food resources and lead to an increase in the number of wild birds. Removing domestics would also decrease the degree of degradation of ground cover currently seen at the area. Benefits of such action must, however, be weighed against potential costs. As previously mentioned, there is considerable interest in the resident waterfowl populations among local people, many of whom would be displeased by any efforts to eliminate these "pets." Removal of the chickens and other domestic fowl would probably not be opposed and should lead to an increase in ground cover which could improve the habitat for terrestrial migrants.

3. Increase the extent of available mudflat habitat. This would have the potential of increasing the number of shorebirds, gulls and terns using the Bird Conservation Area. Such change could be accomplished by grading the intertidal zone to create a more gradual shoreline around the pond. Any such effort would probably have to be accompanied by dredging of the deeper regions of the pond to maintain the potential water volume of the area for flood control purposes. An alternative, or additional step, would be to create a series of small mudflat islands within the pond itself. This could be preferable to the aforementioned approach, as it would provide greater isolation from human disturbance for any birds using this habitat, and might actually make them easier to observe by interested bird watchers.

4. Regulate water quality within the pond. Pollution levels within the pond should be monitored and controlled,

and the variability of salinity should be regulated to permit further development of the invertebrate community of the mudflats. The invertebrates provide food for most of the shorebirds and some of the duck species found on the area.

We must emphasize that the suggestions given above are a brief outline, and we are more than willing to discuss these factors further. However, we firmly believe that it is a real gamble whether or not this "Bird Conservation Area" can actually be improved as a wild bird habitat, no matter how much funds are expanded. No question exists that it can be improved as a "green belt" and as an area for people to enjoy the presence of and feeding of domestic ducks, but schemes to attract a large wild bird population probably will be fruitless.

APPENDIX ONE. BEDS OBSERVED PER VISIT: AUGUST 1970 TO AUGUST 1980.

Table with multiple columns and rows, containing data for 'BEDS OBSERVED PER VISIT' from August 1970 to August 1980. The table is extremely faint and contains illegible text.

APPENDIX FOUR,

VEGETATION ANALYSIS

Robert J. Gustafson
Assistant Curator, Botany

At the extreme western boundary of the park along a chain-link fence is Vitis, a vigorous, large-leaved climber that has spread out in all directions along the ground. Behind this first fence is another chain-link fence which forms the northern boundary of a parking lot. Between these areas are planted a small assemblage of ornamentals including Hakea, Ligustrum, Prunus, Washingtonia, etc. Mesembryanthemum (or an allied genus) is a fairly common ground cover in this area. Along the southern boundary as one proceeds west to east, the dominant tree or shrub is Myoporum laetum, forming dense thickets along most of the southern border. Interspersed along the chain-link fence are plantings of Pyracantha. Salicornia virginica can be found along the waterline along most of the southern boundary but is absent along the northern shore. Above the Salicornia one finds interspersed here and there planting of Pinus, Callistemon, Eleagnus, Podocarpus, Alnus, Cupressus and Eucalyptus. Several trees of Eucalyptus are planted toward the southeastern end. A Melaleuca is growing at the extreme southeastern boundary. Where the water channel narrows in this same area the Salicornia is more prominent along with Artemisia, Chrysanthemum, Foeniculum, Picris, annual grasses, Raphanum, Brassica, Pennisetum,

Lactuca, etc. (all introduced weeds except the Artemisia which is native). Paralleling the bike path on the eastern perimeter are plantings of Cistus, Platanus, Meleleuca, Eriobotrya, Hibiscus, Schinus, Pinus, and Rhus laurina (a native plant). Interspersed among these ornamentals are Atriplex semibaccata, Conyza, Lolium, Sorghum, Avena, Salsola, Amaranthus, Plantago, Heliotropium, Convolvus, Anagallis, and Cortaderia. The northern boundary is almost solely Myoporum along with 1 Washingtonia and 1 Lagunaria patersonii. The fence has sporadic plantings of Pyracantha along it. Ditchgrass (Ruppia maritima) is in the flood control basin.

From a botanical viewpoint this area is extremely uninteresting, since hardly any native vegetation is in evidence. If the area were replanted with native plants and could somewhat approximate a coastal sage community flanking the flood control basin, more native birds might be induced to nest in this area. Recommended plantings of Rhus laurina, R. integrifolia, Salvia mellifera, Encelia californica, Haplopappus venetus, Baccharis pilularia consanguinea, Atriplex lentiformis, to mention a few, could certainly enhance the park.

PLANT LIST

<i>Hakea</i> sp.	Pincushion Tree
<i>Prunus</i> sp.	Privet
<i>Ligustrum</i> sp.	Fan-Palm
<i>Washingtonia</i> sp.	Wild Grape
<i>Vitis</i> sp.	Ice-Plant
<i>Mesembryanthemum</i> (or an allied genus) sp.	Myoporum
<i>Myoporum laetum</i>	Firethorn
<i>Pyracantha</i> sp.	Pickle Weed
<i>Salicornia virginica</i>	Coyote Brush
<i>Baccharis pilularis</i>	Bottlebush
<i>Callistemon</i> sp.	Oleaster
<i>Eleagnus</i> sp.	Podocarpus
<i>Podocarpus</i> sp.	Alder
<i>Alnus</i> sp.	Cypress
<i>Cupressus</i> sp.	Blue-gum
<i>Eucalyptus</i> sp.	Honey Myrtle
<i>Melaleuca</i> sp. (2 different species)	Mugwort
<i>Artemisia douglasiana</i>	Garland Chrysanthemum
<i>Chrysanthemum coronarium</i>	Fennel
<i>Foeniculum vulgare</i>	Bristly Ox-tongue
<i>Picris echioides</i>	Wild Radish
<i>Raphanus sativus</i>	Black Mustard
<i>Brassica nigra</i>	Fountain Grass
<i>Pennisetum setaceum</i>	Wild Lettuce
<i>Lactuca serriola</i>	Sycamore
<i>Platanus</i> sp.	Loquat
<i>Eriobotrya japonica</i>	Hibiscus
<i>Hibiscus rosa-sinensis</i>	Pine
<i>Pinus</i> sp.	Peruvian Pepper-tree
<i>Schinus molle</i>	Rock Rose
<i>Cistus</i> cf. <i>purpureus</i>	Laurel Sumac
<i>Rhus laurina</i>	Horseweed
<i>Conyza bonariensis</i>	"
" <i>canadensis</i>	Ryegrass
<i>Lolium multiflorum</i>	Ripgut Grass
<i>Bromus rigidus</i>	Soft Chess
" <i>mollis</i>	
" sp.	Johnson Grass
<i>Sorghum</i> cf. <i>halepense</i>	Wild Oats
<i>Avena fatua</i>	English Plantain
<i>Plantago lanceolata</i>	Pimpernal
<i>Anagallis arvensis</i>	Amaranth
<i>Amaranthus</i> sp.	Wild Heliotrope
<i>Heliotropium curassavicum oculatum</i>	Bindweed
<i>Convolvulus</i> sp.	Pampas Grass
<i>Cortaderia sellowiana</i>	Lagunaria
<i>Lagunaria patersonii</i>	Ditchgrass
<i>Ruppia maritima</i>	Bermuda Grass
<i>Cynodon dactylon</i>	

ORNITHOLOGICAL STUDY
OF
BIRD CONSERVATION AREA
MARINA DEL REY, CALIFORNIA

1 9 7 4

Carter Schleicher
Humboldt State College

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I. PURPOSE

Reasons for Bird Conservation Area Study

There are three reasons to have conducted the study on the area termed Bird Conservation Area. First, there was the necessity of determining the species of birds using the area in its present condition. Secondly, it was desirable to determine whether the Bird Conservation Area was used to its potential. Finally, the study would help to establish guidelines for a management program.

II. DATA

The following data has been based on observations from June 14, 1973 through November 30, 1973, during unusual weather conditions. This past summer was not a usual one. The temperatures were lower than normal. The amount of fog and haze were greater than normal. The sun was out bright and hot three weekends all summer.

Bird Species Present at Different Times of the Day

The day was divided into the following three periods: morning, afternoon and evening. Morning was set as that time before twelve o'clock noon. The parameters of afternoon were twelve noon to five o'clock. Evening was considered to be that time after five p.m.

Morning. The primary species using the area are resident terrestrial birds such as Starlings, Mockingbirds, Scrub Jays and Rock Doves. Gulls increased usage after the 1st of November.

Bird species that are compatible with man were of greater abundance (Fig. 1). These species included Coots, Rock Doves and Starlings.

Afternoon. There was an average increase of three hundred forty-three birds from the morning count to the afternoon count. Six species had increased close to 100% or greater (Fig. 2). The species and percentages are as follows:

<u>Species</u>	<u>% (Approx.)</u>
Gulls	177
House Finch	77
Rock Doves	100
Spotted Sandpiper	
Starlings	129
Wh. Cr. Sparrow	567

Shore birds as a group increased 1200% from morning to afternoon.

Evening. A 23% decrease occurred between afternoon and night. Seven species increased their numbers over the afternoon. Four species are shore birds, one water fowl specie, one terrestrial and one fish eater. The species and percentages are as follows:

<u>Species</u>	<u>% (Approx.)</u>
Belted Kingfisher	50
Coot	14
House Finch	49
Great Blue Heron	150
Killdeer	500
Spotted Sandpiper	98
Snowy Egret	300

The number of sightings of shore birds as a group increased 138% over the number of afternoon sightings. Terrestrial bird sightings decreased from the number of sightings during the afternoon. (Compare Fig. 3 with Fig. 2).

Bird Species Present During Different Weather Conditions

Clear and Sunny. Twenty-seven of the thirty-five bird species were sighted on sunny days (Appendix A). This would appear normal. The sun ripens berries, increases the number of available insects flying, so the birds would be out also.

Cloudy. Again twenty-seven of the thirty-five species were sighted on cloudy days (Appendix B). Four of the twenty-seven species increased the number of sightings during cloudy days. The remaining twenty-three species decreased in the number of sightings. The difference between total of sightings during sunny days and cloudy days is an insignificant number.

Precipitation. Seventeen species appeared on days of precipitation, (Appendix C, 4), which accounts for only 111 individuals. This is a decrease of 88% from the number of individuals that appeared during sunny days and a decrease of 72% from the number of individuals on cloudy days. This is normal. Birds usually seek shelter or leave the area during precipitation.

Terrestrial Plant Utilization

Plant utilization was divided into four categories as follows: food, perching, cover and nesting. Plants were put into these categories based on observations.

Food. Plant species used for food.

Chrysanthemum

Yellow Sweet Clover
Castor Bean
Loquat
Pyracantha

Perch. Plant species used for perching.

Eucalyptus
Pepper Tree

Ca. Sycamore
Tree Tobacco

Myoporum

Bottle Brush

Rumex

Chrysanthemum

Fennel
Loquat

Fremontia

Castor Bean
Bouganvillea

Cover. Plant species used for cover.

Eucalyptus
Salicornia
Myoporum
Pepper tree
Conifer
Grapes
Pampas Grass

Nesting. Birds did not use the Bird Conservation Area for nesting.

Other Food Sources

The other food sources are the following: fish, insects, invertebrates in the mud flats, aquatic vegetation. The number of times the above sources were used are illustrated in Figs. 1 thru 4.

Fish
Insects
Mud Flats
Aquatic Vegetation

Data from Similar Areas

The data consists of the bird lists for the similar areas (See Table 1). These areas have been picked due to similar aspects of our Bird Conservation Area. The areas chosen are Marina del Rey, Hughes property south of Ballona Creek, Eolinas Lagoon and Whittier Narrows Wild Life Sanctuary.

Marina del Rey. The Marina del Rey data is comprised from the 1968, 1970, 1971 and 1972 Christmas counts conducted by the Los Angeles Audubon Society. This area encompasses Ballona Creek, entrance channel and basins of Marina del Rey, Venice Canal area and the land that constitutes Marina del Rey.

Hughes Property. Data concerning Hughes property is taken again from the 1968, 1970, 1971 and 1972 Christmas counts by the Los Angeles Audubon Society. This land runs from the west end of the runway to behind the apartments in Playa Del Rey, south from Ballona Creek to the hills of Playa Del Rey. This area's data and Marina del Rey's data were picked to give us a look as to what bird species are in this area.

Bolinas Lagoon. Bolinas Lagoon gives us bird life typical of a salt water lagoon, salt water estuary, grassland and upland areas. Bolinas Lagoon consists of 1,400 acres of salt water, tidal mudflats, marsh lands and sandbars. Bolinas Lagoon bird list came out of the blue cover manual prepared by California Department of Fish and Game on Bolinas Lagoon's natural resources.

Whittier Narrows. Whittier Narrows Wild Life Sanctuary is operated by Los Angeles County. It is 127 acres with a five-acre pond. This area was chosen to give us data for another area in Southern California. This area represents what can be done through manipulation. Their man-made pond supported breeding water fowl.

TABLE I. BIRD SIGHTING LIST COMPARISONS FROM SIMILAR AREAS

	Bird Cons.Area	MdR	Hughes	Bolinas Lagoon	Whittier Narrows
<u>Loons</u>					
Common Loon		x		x	
Arctic Loon		x		x	
Red-throated Loon		x	x	x	
<u>Grebes</u>					
Red-necked Grebe		x			
Horned Grebe		x	x	x	
Eared Grebe		x	x	x	
Western Grebe		x	x	x	
Pied-billed Grebe	x	x	x	x	
<u>Pelicans and Allies</u>					
White Pelican		x		x	
Brown Pelican		x		x	
Double-crested Cormorant		x		x	
Brandt's Cormorant				x	
Pelagic Cormorant		x		x	
<u>Herons and Allies</u>					
Great Blue Heron	x	x		x	x

	Bird Cons.Area	MdR	Hughes	Bolinas Lagoon	Whittier Narrows
Common Egret	x			x	x
Snowy Egret	x	x		x	x
Green Heron	x	x	x	x	x
Black-crowned Night Heron				x	x
American Bittern		x			
Common Heron				x	
<u>Water Fowl</u>					
Harlequin Duck		x			
Black Brandt				x	
Mallard			x	x	x*
American Widgeon		x	x	x	x
Pintail		x	x	x	
Green-winged Teal		x		x	
Blue-winged Teal	x				
Shoveller		x	x	x	
Red Head		x	x	x	
Canvas back		x		x	
Greater Scaup				x	
Lesser Scaup	x	x		x	
Common Golden-eye				x	
Buffle head		x		x	
White-winged Scoter		x		x	
Surf Scoter		x		x	
Common Scoter		x			
Ruddy Duck		x		x	
Common Merganser		x		x	
Red-breasted Merganser		x		x	
<u>Vultures, Hawks & Falcons</u>					
Turkey Vulture		x		x	
Bald Eagle				x	
White-tailed Kite		x	x		x
Sharp-skinned Hawk				x	x
Coopers Hawk				x	
Red-shouldered Hawk	x	x		x	x
Marsh Hawk		x	x	x	x
Osprey				x	
Sparrow Hawk	x	x	x	x	x
<u>Callinaceous Birds</u>					
California Quail		x	x	x	x*
<u>Rails & Coots</u>					
Clapper Rail				x	

	Bird Cons. Area	MdR	Hughes	Bolinas Lagoon	Whittier Narrows
Virginia Rail				X	
Sora				X	
American Coot	X	X	X	X	X
<u>Shore Birds, Gulls</u>					
Mountain Plover			X		
Semi-palmated Plover		X	X	X	
Killdeer	X	X	X	X	X*
Black-bellied Plover	X	X	X	X	
Surfbird		X			
Ruddy Turnstone		X		X	
Black Turnstone		X	X		
Common Snipe		X	X		X
Long-billed Curlew		X	X	X	
Whimbrel		X	X	X	
Spotted Sandpiper	X	X	X		X
Wandering Tattler		X			
Willet	X	X	X	X	
Greater Yellow Legs		X	X	X	X
Lesser Yellow Legs				X	
American Golden Plover			X		
Least Sandpiper		X	X	X	X
Dunlun		X	X	X	
Dowitcher	X	X	X	X	X
Western Sandpiper		X	X	X	
Marbled Godwit		X	X	X	
Sanerling		X	X	X	
Red Phalarope		X		X	
Northern Phalarope				X	
Gulls	X	X	X	X	
Black-legged Kittiwake		X		X	
Forster's Tern		X		X	
Royal Tern				X	
Caspian Tern		X	X	X	
Least Tern		X	X		
<u>Owls</u>					
Barn Owl			X	X	X
Great Horned Owl				X	
Burrowing Owl		X	X		
<u>Swifts & Hummingbirds</u>					
White-throated Swift	X	X	X		X
Black-chinned Hummingbird				X	X*
Anna's Hummingbird		X	X	X	X*
Allen's Hummingbird				X	

	Bird Cons. Area	MdR	Hughes	Bolinas Lagoon	Whittier Narrows
<u>Kingfishers</u>					
Belted Kingfisher	x	x	x	x	x
<u>Woodpeckers</u>					
Red-shafted Flicker	x	x	x	x	x*
Acorn Woodpecker				x	
Downy Woodpecker				x	
<u>Perching Birds</u>					
Black Phoebe	x	x		x	x*
Say's Phoebe		x	x	x	
Western Flycatcher	x			x	
Tree Swallow				x	
Barn Swallow	x			x	
Scrub Jay	x	x		x	x*
Common Raven		x		x	
American Crow	x	x		x	x
House Wren		x			
Long-billed Marsh Wren		x		x	
Rock Wren		x			
Mockingbird	x	x	x		x*
American Robin		x	x	x	
Hermit Thrush		x	x	x	
Cedar Waxwing		x		x	x
Loggerhead Shrike	x	x	x	x	x*
Starling	x	x	x	x	x*
Hutton's Vireo				x	
Yellow Warbler				x	x
Audubon's Warbler		x	x	x	x
Common Yellowthroat		x		x	
Wilson's Warbler	x			x	
House Sparrow	x	x	x	x	x*
Western Meadowlark		x	x	x	x*
Brewers Blackbird		x		x	
Purple Finch				x	
House Finch	x	x	x	x	x*
American Goldfinch	x			x	x
Lesser Goldfinch		x		x	x
Rufous-sided Towhee		x		x	x*
Brown Towhee		x	x	x	x*
Savannah Sparrow		x	x		
White-crowned Sparrow	x	x	x	x	x
Golden-crowned Sparrow		x		x	
Lincoln's Sparrow			x	x	
Song Sparrow	x	x	x		x*
Ash-throated Flycatcher	x				x*

* = Nesting - only valid count at Whittier Narrows.
No nesting observed in Bird Conservation Area
over a six-month period.

Whittier Narrows had also the following species:

Cinnamon Teal
Ring-necked Pheasant
Black-necked Stilt
Screech Owl
Western King bird
Common Bushtit
California Thrasher
Western Tanager
Black-headed Grosbeak
Blue Grosbeak

Data from Other Observations

Surface of Basin. The surface of the basin is cluttered with papers, cans, bottles and other trash. The trash enters the basin through Flood Control District's storm drain on Washington Boulevard, and the easement from Oxford Avenue. Due to the fluctuation of the tide, a portion of the trash is strewn onto the vegetation bordering the basin. Some of the trash helps to clog up the tide gates in the southwest corner of the basin. Bits of the trash are flushed into Basin E. A small portion sinks to the bottom.

In the summer and through the fall there is a vegetation bloom on the eastern third of the surface. The vegetation breaks up and a small portion finds its way to the tide gates and adds to their clogging, which decreases the flow through the gates. The majority of the vegetation falls to the bottom after the first storm in the fall.

Floor of the Basin. The floor is again cluttered with cans, bottles and other assorted garbage. The surface of the floor is from six inches to eighteen inches thick in decomposed matter, the thickest being where most of the matter of vegetation dropped. The eastern third of the floor is covered with a white cob-webby fungus. Again, we cannot ignore the correlation that the eastern third is where the majority of the surface vegetation dropped.

III. CONCLUSIONS

The Bird Conservation Area is not being used to its potential as a bird sanctuary. (See Data from Similar Areas). Our Bird Conservation Area does not offer the birds what they need in the following essential areas: food, cover, nesting.

Food

Terrestrial Species. Our bird sanctuary does not have the quantity of plants needed to produce the amount of food needed to attract the passing birds. The few plants we have are not producing to their capabilities as they are either planted in the wrong light or are overgrown by other plant species.

Waterfowl. Top smelt is the major species of fish. There are four generations present at a time. It seems to be adequate for fish eaters, though there are no fish in the eastern end. There seems to be a lack of quality and quantity of invertebrates and marsh plants on the tide flats. There is a definite lack of adequate submerged vegetation on the bottom. This lack of marsh food probably is inhibited by the trash, dirt and the scummy growth aided by storm drainage and lack of natural flushing.

Cover

Terrestrial Species. For the terrestrial species there is plenty of cover. We have for all practical purposes 100% cover on the land of which 90% is usable for the birds.

Waterfowl. Once again we lack a good marsh plant cover. When there is bad weather the waterfowl need tall, thick plants to shelter themselves. It is possible that the marsh plants have not really taken hold due to water and soil quality.

Nesting

The terrestrial birds and waterfowl did not use the Bird Sanctuary for nesting. There are various possibilities on why they did not. First, we did not offer them the plants with the right limb configuration to make a nest on. Secondly, the material needed to make a nest was of poor quality or in short supply. Third, we probably did not have on hand the necessary food for the mother and/or the young.

General Environment

The overall appearance is trashy. Since there was never any regular trash pickup schedule the papers, bottles and cans accumulated along the shoreline and can be seen by the passing public. Domestic animals get into the area through holes in the fence and harass the wildlife.

IV. RECOMMENDATIONS

These recommendations are set forth for ultimate development because of the good potential of the area.

Back Flushing System

We need to provide a back flushing system and/or route the storm water through the east end. The back flush system would minimize the eutrication of the Bird Conservation Area. Routing the storm water out through the east end would remove the trash from the Bird Conservation Area and cut down the amount of vegetational growth on the surface. Remove six to eighteen inches of decomposed matter from the floor of the basin.

Planting Development

The Bird Conservation Area is divided into 8 planting areas. (See Map 1).

Each planting area has its own plants to be taken out and its new replanting. (See Table 2)

Table 2. Planting Development

Area 1

Plants to be removed -

Eucalyptus
Pines
Myoporum
Pampus Grass

Plants to be planted -

17 California Sycamores
17 Willows

Area 2

Plants to be removed -

Pines
Grapes
Pampus Grass

Plants to be planted -

47 Pyracantha along the fence
14 California Sycamores on the slope of Parking Lot OT

Area 3

Plants to be removed -

Myoporum
Pines

Plants to be planted -

4 California Bay
4 California Sycamores

Area 4

Plants to be removed -

Pampus Grass
Oleander
Myoporum
Pines

Plants to be Planted -

34 Toyon

Area 5

Plants to be planted -

10 Coffeeberry
10 Elderberry

Area 6

Plants to be removed -

Myoporum

Plants to be planted -

150 Mulefat
45 Pyracantha

Area 7

Plants to be removed -

Myoporum

Plants to be planted -

100 Toyon

Area 8

Plants to be removed -

Salicornia
Spartina Grass

The high tide level should be lowered from 3.5' to 2.5'

Stocking

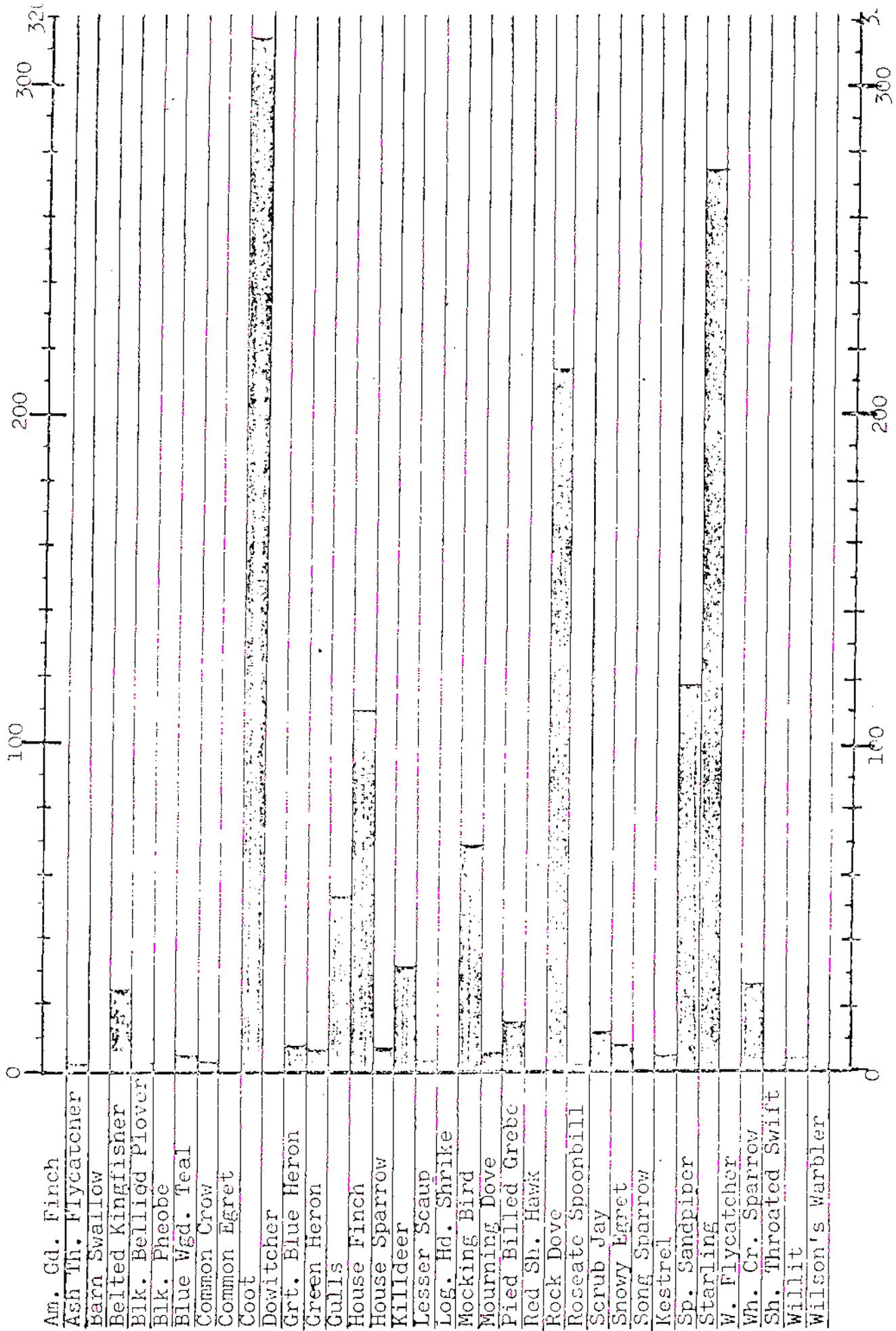
After the marsh plants are established, California Fish and Game will capture and stock an endangered species, the Clapper Rail.

Access Ruling

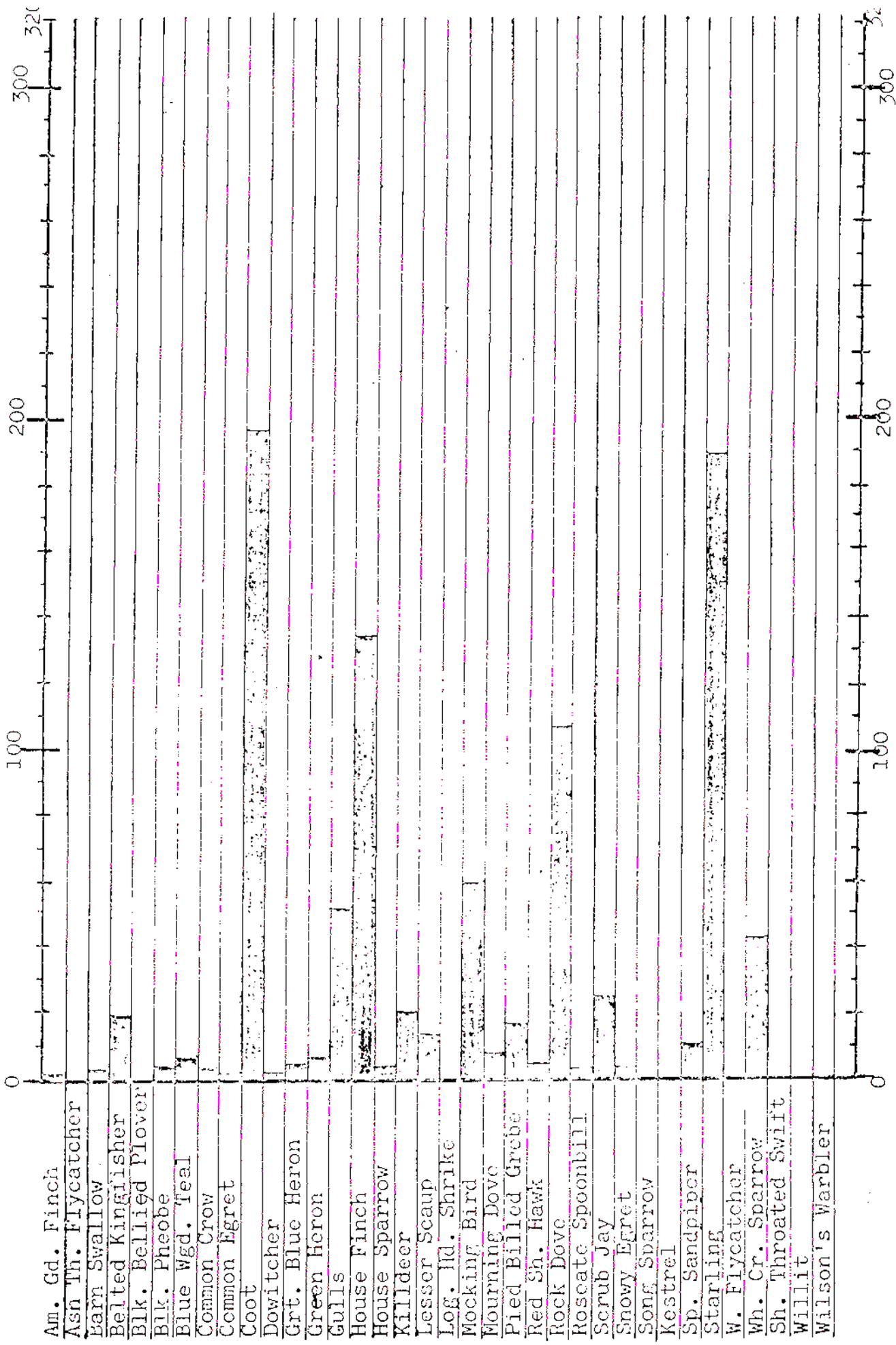
There should not be any public access for a period of two years after all manipulation is completed. Thereafter, limited access by the public in the form of guided groups through the Bird Conservation Area.

Maintenance

Periodic checking of the fence for holes in and under it so they can be fixed to keep the dogs out. A periodic trash pickup should be planned. Finally, constant removal of domestic fowl and mammals.



APPENDIX A BIRDS OBSERVED ON SUNNY DAYS - AVERAGE NUMBER



APPENDIX B BIRDS OBSERVED ON CLOUDY DAYS - AVERAGE NUMBER

APPENDIX C BIRD LIST

<u>Common Name</u>	<u>Scientific Name</u>
American Gold Finch	Spinus Tristis
Ash-Throated Flycatcher	Myiarchus Cinerascens
Barn Swallow	Hirundo Rustica
Belted Kingfisher	Megaceryle Alcyon
Black Bellied Plover	Squatarola Squatarola
Black Phoebe	Sayornis Nigricans
Blue Winged Teal	Anas Discors
Common Crow	Corvus Brachyrhynchos
Common Egret	Casmerodius Albus
Coot	Fulica Americana
Dowitcher	Limnodromus Sp.
Great Blue Heron	Ardea Herodias
Green Heron	Butorides Virescens
Gulls	Larus Sp.
House Finch	Carpodacus Mexicanas
House Sparrow	Passer Domesticus
Killdeer	Charadrius Vociferus
Lesser Scaup	Aythya Affinis
Loggerhead Shrike	Lanius Ludovicianus
Mockingbird	Mimus Polyglottos
Mourning Dove	Zenaiduro Macroura
Pied-Billed Grebe	Podilymbus Podiceps
Red Shoulder Hawk	Buteo Lineatus
Rock Dove	Columba Livia
Roseate Spoonbill	Ajaja Ajaja
Scrub Jay	Aphelocoma Coerulescens
Snowy Egret	Leucophoyx Thula
Song Sparrow	Melospiza Melodia
Kestrel	Falco Sparverius
Spotted Sandpiper	Actitis Macularia
Starling	Sturnus Vulgaris
Western Flycatcher	Epidonax Difficilis
White Crowned Sparrow	Zonotrichia Leucophrys
White Throated Swift	Aeronautes Saxatalis
Willit	Catoptrophorus Semipalmatus
Wilson's Warbler	Wilsonia Pusilla

APPENDIX D REPTILE LIST

Southern Aligator Lizard	Cerrhonotus Multicarinatus
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APPENDIX E AMPHIBIA LIST

Red-Eared Slider	Pseudemys Sp.
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APPENDIX F MAMMAL LIST

Brush Rabbit	Sylvilagus Bachmani
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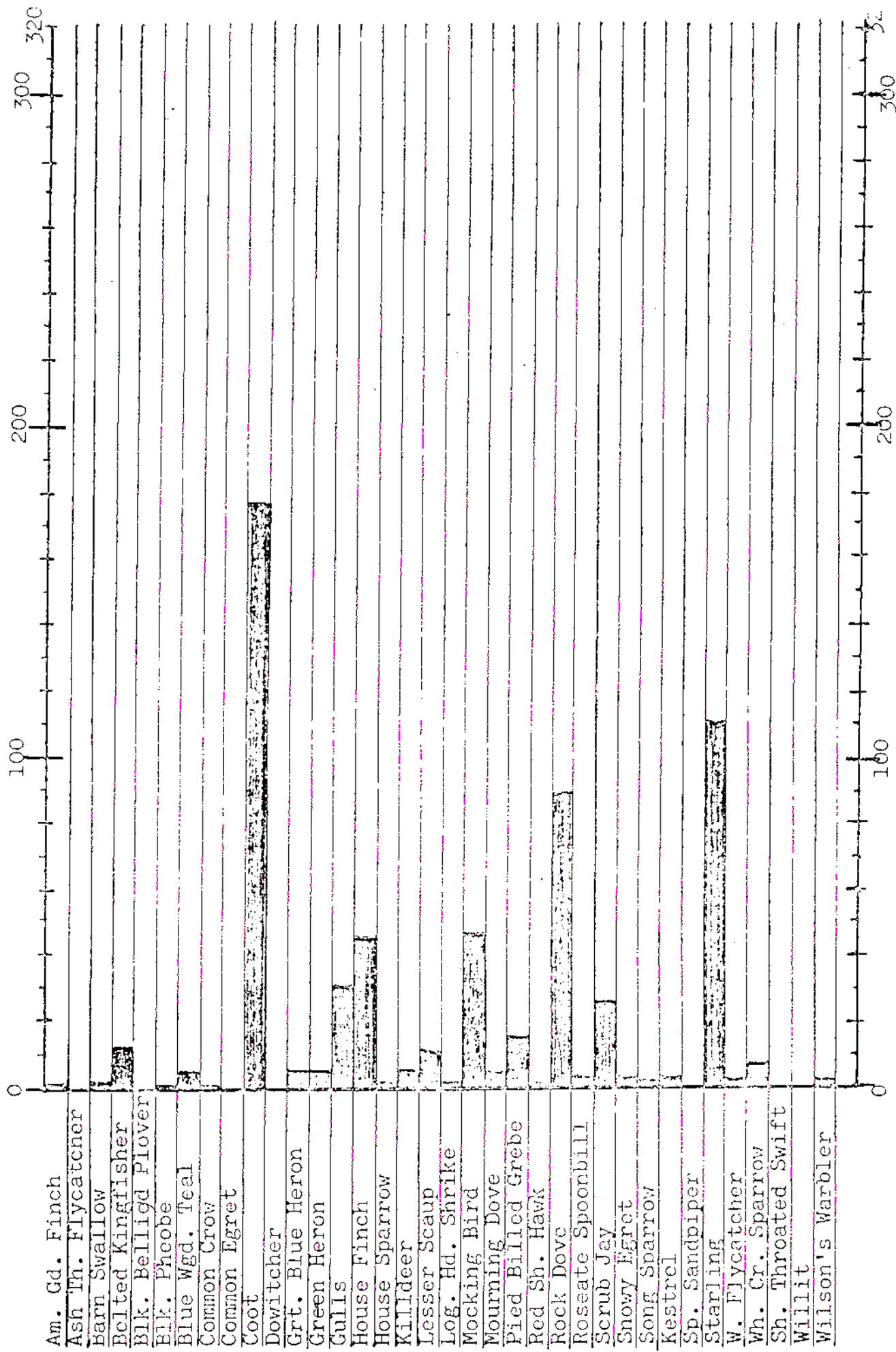


FIGURE 1 BIRDS OBSERVED IN THE MORNING - AVERAGE NUMBER

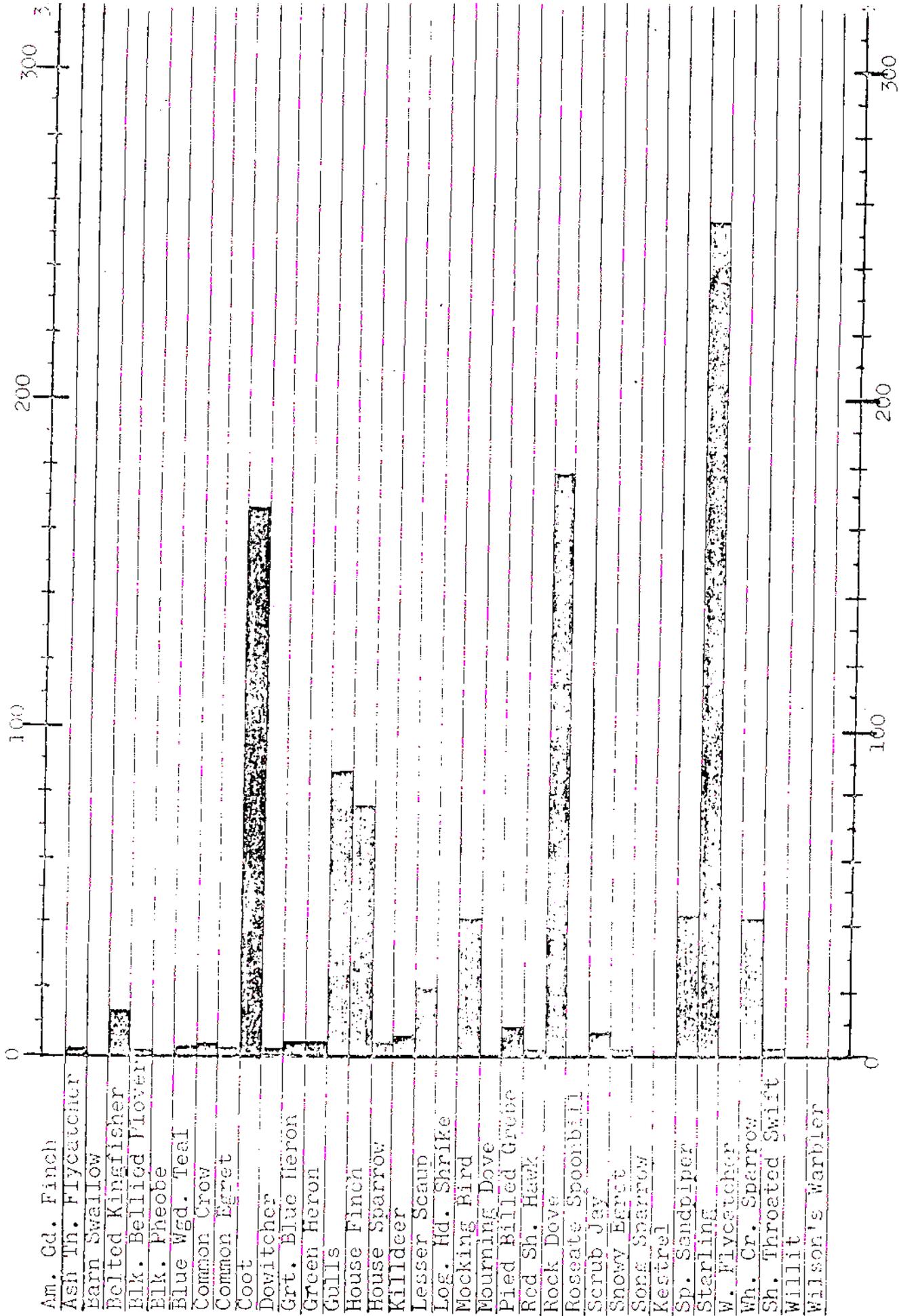


FIGURE 2 BIRDS OBSERVED IN THE AFTERNOON - AVERAGE NUMBER

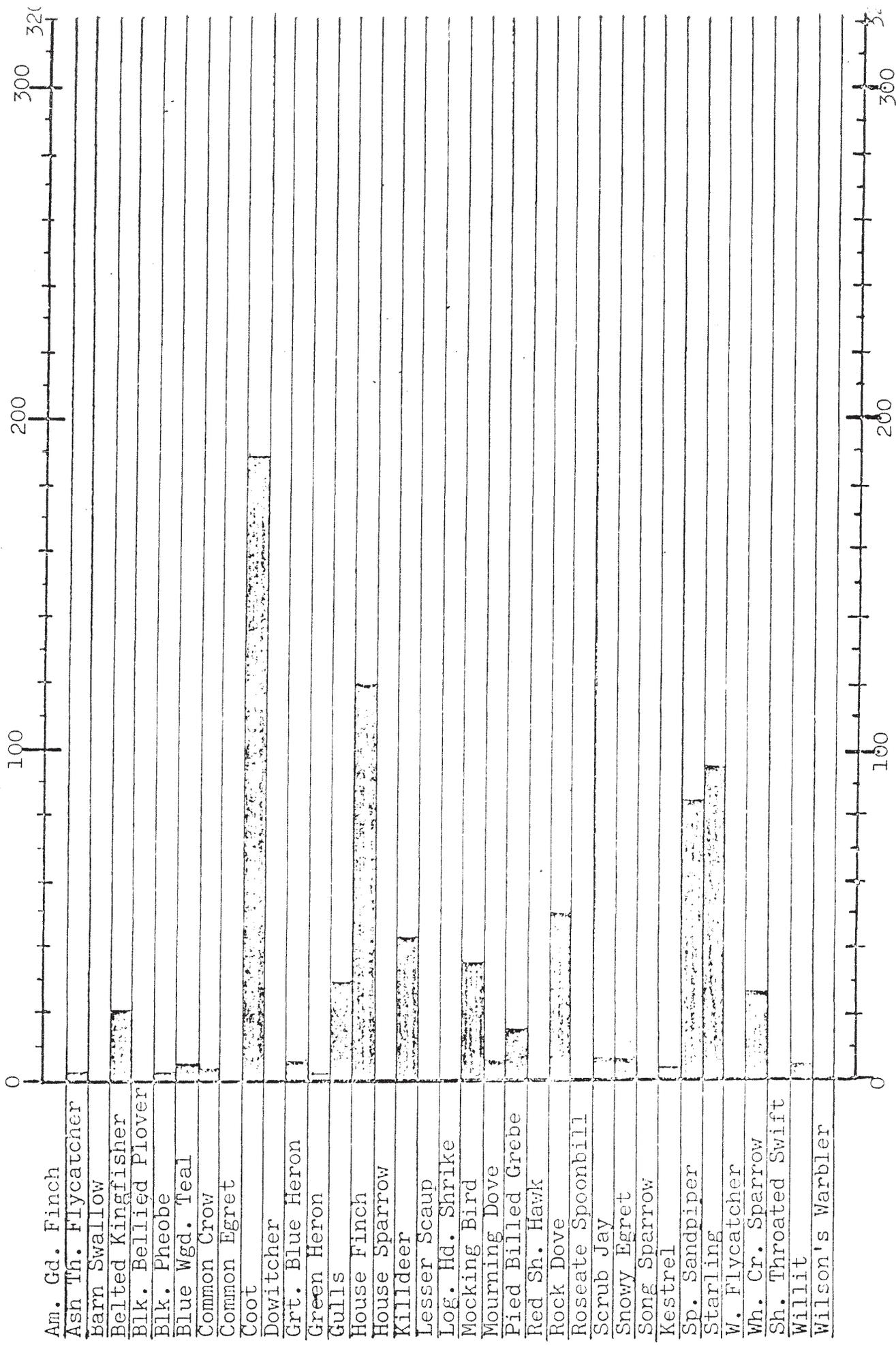


FIGURE 3 BIRDS OBSERVED IN THE EVENING - AVERAGE NUMBER

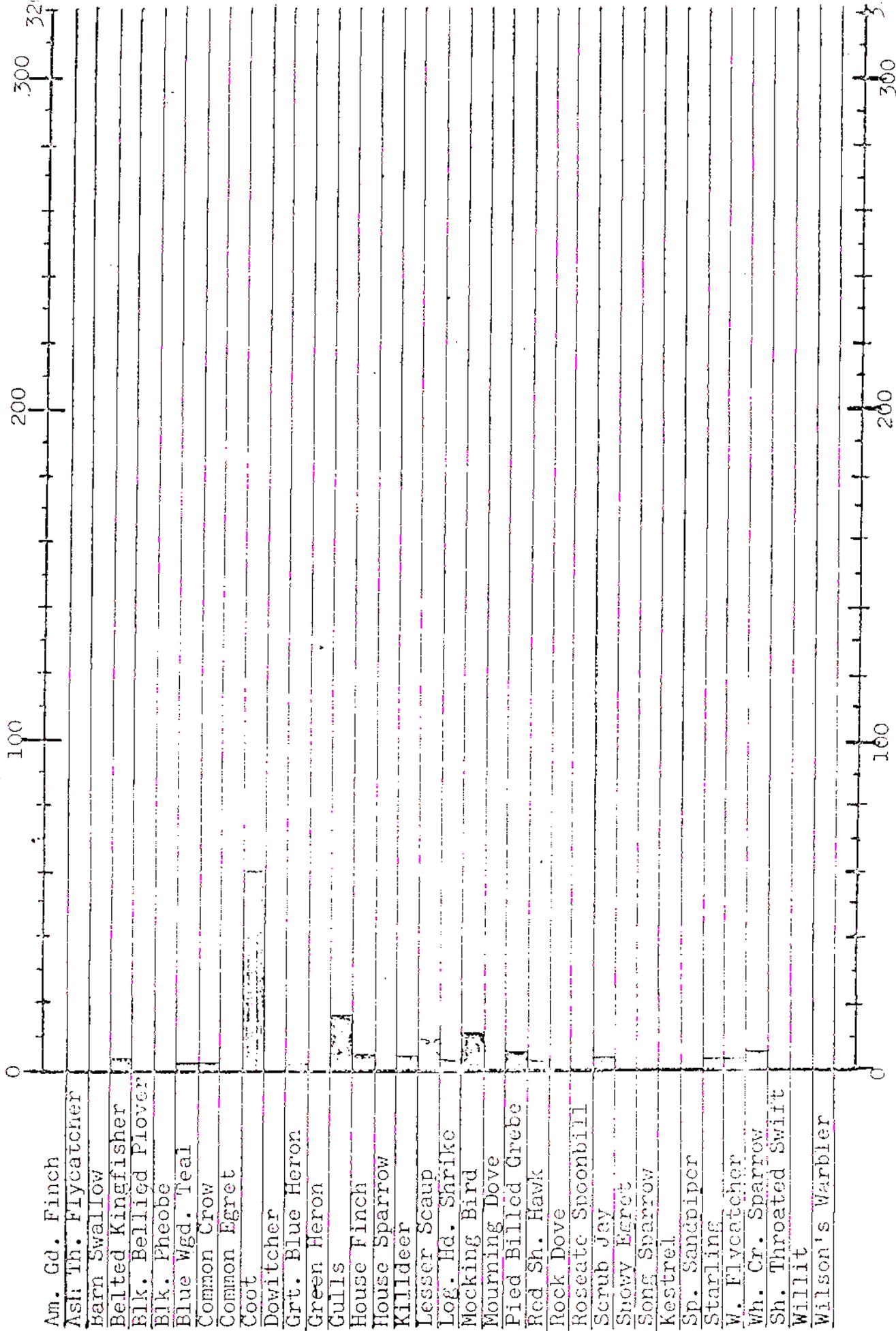
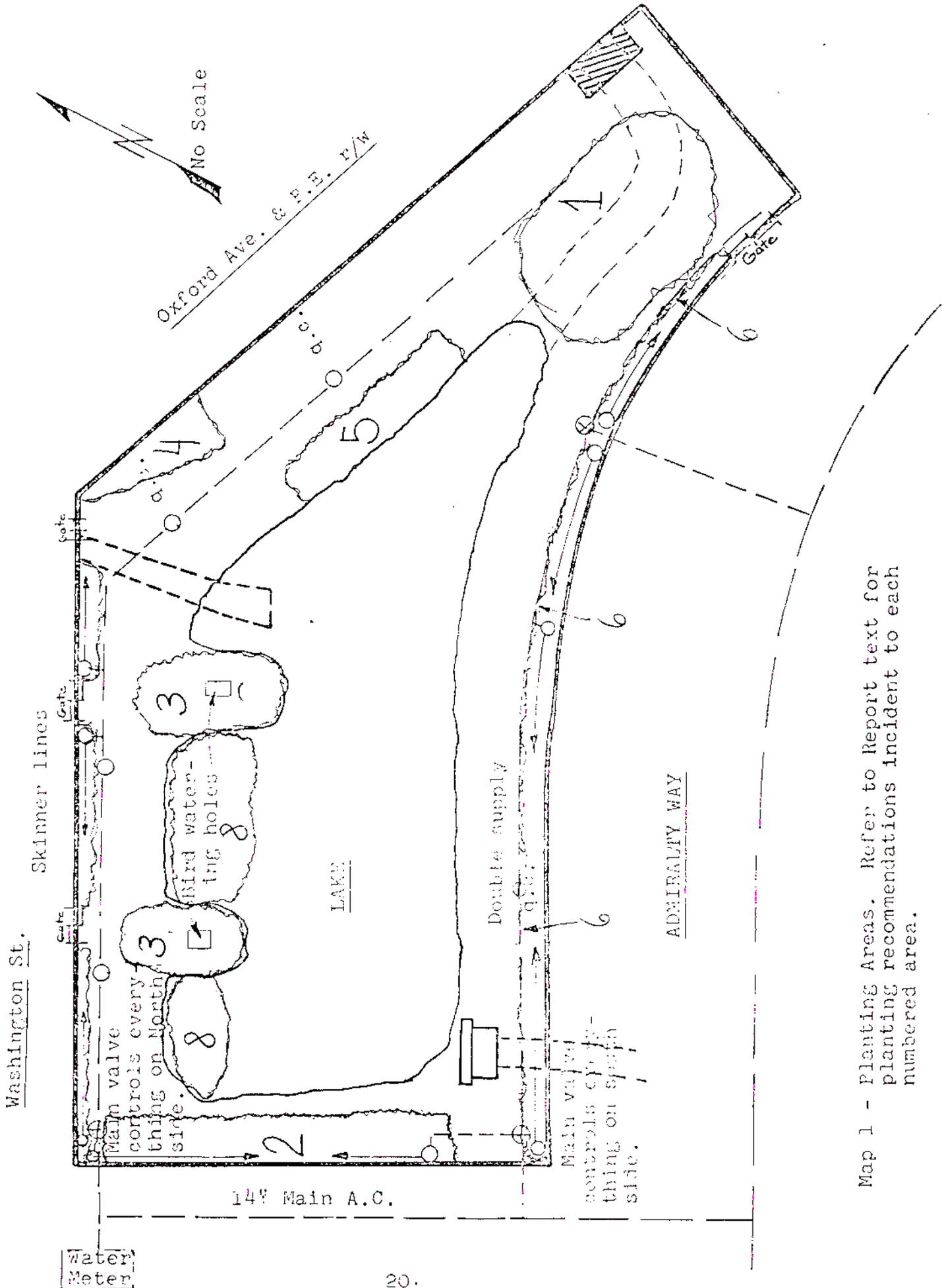


FIGURE 4 BIRDS OBSERVED ON RAINY DAYS - AVERAGE NUMBER



Map 1 - Planting Areas. Refer to Report text for planting recommendations incident to each numbered area.