

A Census of the Birdlife in the Eastshore State Park

October 2005 – September 2006

Prepared by Members of

**Golden Gate Audubon
2530 San Pablo Avenue
Suite G
Berkeley, CA 94702**

November 2006

Sponsored by

**The San Francisco Foundation
The California State Parks Foundation**

Eastshore State Park Census – 2005 – 2006 Final Report

Summary: Golden Gate Audubon conducted a census of birdlife in the Eastshore State Park from October 2005 to September 2006. Over 140 species of birds were seen in the park. Shorebird and waterfowl concentrations reached a peak in December, when over 23,000 birds were counted during one ebbing tide census. The report shows what areas of the park are most critical for birdlife, what species were found to nest in the park, and provides a checklist showing which species are found in the park during different seasons. Some suggestions for continued enhancement of the park for birdlife are provided.

Introduction: During the period when the Eastshore State Park (ESSP) was being developed, Golden Gate Audubon (GGA) suggested it would be helpful to future conservation efforts if a year-long census of bird activity could be conducted. This study was ultimately supported by East Bay Regional Parks, and a program was developed with the following objectives:

- Determine bird utilization of different habitats within the Park to support future improvements
- Increase ESSP use by advertising birding opportunities and increasing public awareness of the park birdlife

GGA designed and conducted the census, as well as an associated field trip program, with financial support from two agencies:

- The San Francisco Foundation
- The California State Parks Foundation

The program was developed in August and September 2005. GGA made the following commitments:

- To lead at least 24 well-advertised regularly scheduled nature walks to the Eastshore State Park with an estimated attendance of at least 20 people for each walk, starting in October 2005.
- To design and manage a one-year census of the Park birdlife, showing habitat utilization, species diversity and numbers over a full year, starting in October 2005, including:
 - Development of census protocols
 - Training of volunteers for the census
 - Establishing a census calendar and assuring the presence of censusers
 - Managing the census data
- To develop, print and distribute to all nature tour participants and to the community at large a flyer/brochure that describes Eastshore State Park and our goals for the Park. A “What you can do” message will be included in this brochure.

- To publish a bird checklist for the Park that will be used to document the avian wildlife present in the Conservation lands and attract supporters of the Eastshore State Park.
- To organize targeted advocacy efforts and generate public support for the Park and wildlife restoration.

Later in the study, we decided to include a Breeding Bird Census, to enhance the information we could provide in a checklist. Protocols were developed and censusers added this task to their normal effort.

Results: All of the deliverables have been completed as of the date of this report. Accomplishments follow:

- Field trips: GGA led 24 field trips in various areas of the park over the course of the study year. The trips had an average attendance of about 20 people, and were conducted by 10 different leaders (Table 1). People had a variety of positive park experiences, from walks through the Berkeley Meadow to see wintering ducks and geese, to a dusk walk along the Richmond shoreline to listen for breeding Clapper Rails, to a bicycle / birding trip along the Bay Trail. We drew the following conclusions based on our birdwalks:
 - The Berkeley Meadow provides an excellent area for an introductory birdwalk, with a variety of habitats. The trails are satisfactory for a relatively large group, and over the course of the year birders have seen an interesting list of species, detailed in the data tables.
 - The Bay Trail from Rydin Road to Meeker Slough is also an excellent birding walk, and the improvements being made just outside the park will add to the birding experience.
 - The Albany Bulb and Beach area are favorites of dog walkers, especially on weekends. The beach, which could be a good shorebird habitat, is not. The rocks surrounding the lagoon host a variety of relatively unusual shorebirds, like Black Oystercatcher, but the trail permits dog and human access to these roosting areas. The trails here are difficult for a group, especially if there is interest in viewing the lagoon. However, the mudflats north of the neck are rich with shorebirds, and the viewing area and trail near the highway are excellent places to study shorebirds.
 - Emeryville's mudflats are one of the richest area for shorebirds (Fig. 4B, Fig. 5), but because viewing them is difficult, we did not lead field trips here. There is good access along Powell, but getting close to the shoreline is not easy. Since this is also probably breeding area for Clapper Rails¹, perhaps this is also not desirable. The overlook in the master plan will add significantly to the birding experience here.

¹ Personal communication, Leonard Liu (PRBO) to RA Lewis, August 2005.

- Census: GGA completed 24 censuses, one high tide (in an effort to detect roosting areas) and one outgoing tide (to define foraging areas) each month. The censuses were held simultaneously at five different areas of the park, and followed protocols that were developed to census the same areas for the same period of time each month. About 50 people participated in the censuses (Table 2). Some conclusions follow:
 - During the census period, over 140 species of birds were found in the park and its immediate surroundings. See Table 4, Park Checklist.
 - Shorebirds are present throughout the year, but peak in the winter months. Nearly 8,000 shorebirds were found in the November outgoing tide census (Figure 1). The most common wintering shorebirds are Western and Least Sandpipers, Black-bellied Plover, Dunlin, Willet and Marbled Godwit.
 - Waterfowl also peak at about the same time. Nearly 12,000 ducks and geese were found in the December outgoing tide census. The most common species were Greater and Lesser Scaup and Ruddy Duck. See Table 5 for a summary of common birds of the park.
 - A wide diversity of species was found throughout the park, from 93 species in the Berkeley Waterfront (Area 2) to 117 in the Berkeley Meadow (Area 3) and the Albany Waterfront (Area 4). See figure 2
 - The highest density of shorebirds was, as expected, in areas that have significant mudflats. This includes the Emeryville Crescent, the Albany mudflats, and the South Richmond shoreline. See figure 4B.
 - Waterfowl were spread across all the aquatic areas of the park – figure 4C.
 - 35 species of birds were either confirmed or probable breeders, based on the Breeding Bird Survey conducted from April through August. Clapper Rails were confirmed in the Richmond Shoreline area. Most species were confirmed in Richmond or the Berkeley Meadow areas. See BBS data, Table 3.
 - The most significant high tide roosting areas include the Emeryville derelict piers and wharves along the Bay Bridge entry, the shorelines of the two marine reserves and the marshy peninsulas south and west of Meeker Slough in Richmond. Also important are the shell mounds south of Central Avenue in El Cerrito, and the breakwater along the South Richmond Shoreline north of Point Isabel. The outer breakwater along the Albany Lagoon and Point Emery are both frequented by rocky shoreline shorebirds (Oystercatchers, Whimbrel, Wandering Tattler, turnstones). See map, Figure 3, and Figure 5.
- Breeding Bird Survey (BBS): There was some evidence of breeding in the park for 50 species of birds. Table 3 shows the park areas where different breeding species were found, together with an indication of the degree of certainty for breeding. A total of 35 species were either confirmed or probable breeders, and 22 species were confirmed. The park areas with significant uplands hosted the most breeding birds, with the Berkeley Meadow (area 3) and Richmond Shoreline

(area 5) showing 11 and 13 species confirmed, respectively. Appendix II shows the protocol used for the BBS.

- A flyer about Park birdlife was prepared prior to the training programs in August 2005 (Appendix 1)
- A bird checklist has been developed (Table 4) and can be found at www.goldengateaudubon.org.
- An illustrated brochure, which includes the checklist, shows details of the birdlife of the Park. (call 510.843.2222 or email ggas@goldengateaudubon.org to get a copy).

Habitat Utilization and Conservation Opportunities:

- Area 1: The area adjacent to the Bay Bridge, which is right on the south edge of the park, offers roosting habitat for a wide variety of shorebirds, gulls and terns during high tide. The derelict piers are often covered with cormorants, and during migration, with Elegant Terns. High tide roosting areas seem to be at a premium in the park.
- Area 2: The Brickyard cove seems to be especially favored by Whimbrel at outgoing tide.
- Area 2: The small beach adjacent to the Seabreeze Restaurant is a well-known spot for shorebirds, with Black Turnstones being especially common here. The concentration of shorebirds on these small areas of sandy beach shows that it is “premium habitat.” The small beach on the south-east corner of the North Basin is similarly crowded with shorebirds at suitable tides.
- Area 3: The Meadow was an exciting development to watch. There was a large variety of bird species, and potential future breeders, like Wilson’s Snipe and Barn Owl, were already prospecting. Some waterfowl bred in the meadow ponds, and it seems likely that additional species will use this area. Neither kite nor harrier bred there during the census year.
- Area 4: The Albany Beach south of the “neck” is usually heavily used by dogs, and is nearly devoid of birds.
- Area 4: The lagoon at the end of the Albany Bulb is surrounded by a rip-rap pathway. Black Oystercatchers use this area year-round, and turnstones and Wandering Tattlers rest here during migration. There is very little rocky shoreline habitat in the park. Since the pathway is continuous, dogs and walkers continually disturb the birds resting here. A break in the pathway, as suggested in the master plan, would be of value to enhance the habitat.
- Area 5, outside the park boundaries: The shell islands adjacent to Central Avenue in El Cerrito are very effective roosting habitat, with Black-bellied Plover and Western Sandpipers covering the southern island, while Marbled Godwits, Willets and a number of other species occupy the north-western island. Perhaps a similar design could be considered in Emeryville.

- Area 5: The breakwater going west from the shoreline in Richmond near the 51st entrance to the park is not often heavily used by shorebirds. It seems a good habitat for rocky shoreline birds. The enhanced mudflats east of the Bay Trail, just outside the park, are already being used as breeding area by avocets and Killdeer.
- Area 5: Near Meeker Slough, west of the park, a large number of Black-bellied Plover, Marbled Godwits, avocets, stilts, curlew and Black Oystercatchers roost at high tide.

Methods

- A total of twelve high tide and twelve ebbing tide censuses were run, so there is not sufficient data to show real peak utilization of the park by shorebirds and waterfowl. However, the ebb and flow of the migration and use of the park by wintering birds is clearly evident.
- The division of the park into census areas was done based on the master plan for the park, so areas 1-5 are identical to the master plan divisions. This can be seen in Figure 3.
- Census days were selected as days with relatively high tides occurring during convenient morning hours, or for ebbing tides from relatively high tides occurring during morning hours. One monthly census was done on Wednesday, one on Saturday. During the breeding season, we tried to census early in the day, but kept the tidal selection strategy above.
- The plots of seasonal variation of shorebirds and waterfowl are based on ebbing tide census data only.
- The checklist is based on census data, fieldtrip data and reports to EastBay Birds, as well as personal notes. The abundance information relates to census data only, while the species shown includes all the above information. Only birds found during the census year are reported.
- Censusers were trained in field identification and many were expert birders. Unusual birds were confirmed by review of the detailed report, or by other confirming observations.
- Censusers noted areas of roosting bird concentrations on their maps, and this information was used to develop some of the conservation notes above.
- The procedures for the Breeding Bird Survey were based on those in use for the Solano County Breeding Bird Survey, and are typical of other such surveys done in California.
- Data was managed in an Access Database, and was manipulated in Excel for charts and tables. The detailed database is available from Golden Gate Audubon.
- This report was written October 7, 2006, reviewed and finalized November 28, 2006.

Table 1

Field trips to ESSP sponsored by GGA during the census year, with trip leaders

Oct. [2] Bob Lewis, Rusty Scalf
Nov. [3] Kathy Jarrett, Bob Lewis, Anne Hoff
Dec. [3] Michael Butler, Marilyn Nasatir & Inge Svoboda
January: [2] Bob Lewis, Anne Hoff
February: [3] Kathy Jarrett, Bob Lewis, Dave Quady
March: [2] Michael Butler, Bob Lewis
April: [3] Bob Lewis (2), Rusty Scalf
May: [1] Hilary Powers, Ruth Tobey
June: [1] Dave Quady
July: [1] Dave Quady
August: [1] Rusty Scalf
September: [2] Kathy Jarrett, Bob Lewis

Table 2

Census Participants

Mark Briggs – Design, Final Brochure and Checklist
Judith Dunham – Final Brochure and Checklist Development
Steve Granholm – Design Consultant
Carolyn Kolka – Volunteer Coordination
Bob Lewis – Census and Breeding Bird Protocols, Data Analysis, Final Report
Samantha Murray -- Overall Coordination and Grant Management, Report Review
Charlotte Nolan – Data Management
Tara Zuardo -- Staff

Censusers

Barth, Ellen	Hoff, Anne	Roethe, James
Battagin, Bob	Kretschmer, Doris	Rogers, Phila Witherell
Berenson, Betty	Larkin, Jim	Schultz, Bill
Berthelsen, Martha	Lawrence, Jill	Snyder, Franz
Bird, Ruth Joan	Lutz, Melanie P	Sojourner, Elizabeth
Bloom, Kay	Magowan, Clair	Sorenson, Eric
Butkus, Dolores	Maynard, Phil	Stewart, Doug
Carville, Ed	Mena, Mona & Horacio	Strandberg, Lynn
Cleere, Timothy J	Nasatir, Marilyn	Svoboda, Inge
Coddington, Terry	Nelson, Judith K	Tanovitz, Ed
Coon, Robert & Carol	Nolan, Charlotte	Tobey, Ruth
Dales, Loring	Palmer, Gary & Cheryl	Vaughan, Douglas
Greenberg, Corinne	Pericoli, Ralph	Vaughan, Robert & Veronica
Hand, Gabriel	Quady, David	Wilkinson, Jeff
	Richter, Mike & Ann	

Table 3

Eastshore State Park Breeding Bird Survey Status

Name	Area					CO	PR
	1	2	3	4	5		
Canada Goose	CO	CO	CO	CO	CO	5	0
Gadwall		PO	PR		PR	0	2
Mallard	PO	CO	CO	PR	CO	3	1
Cinnamon Teal			PR			0	1
Ruddy Duck				PR		0	1
Clark's Grebe			PR			0	1
Double-crested Cormorant	PO	PO				0	0
Great Blue Heron				CO		1	0
Green Heron			PO			0	0
Black-crowned Night-Heron			PO			0	0
Osprey				PO		0	0
White-tailed Kite				PO		0	0
Northern Harrier				PO		0	0
Red-tailed Hawk			PO	PO		0	0
American Kestrel			PR			0	1
Clapper Rail				PR		0	1
Killdeer	PO	PR	CO	CO	CO	3	1
Black Oystercatcher	PO	PO	PO	PO	PO	0	0
Black-necked Stilt	PO		PO			0	0
American Avocet	PO			PO	CO	1	0
Western Gull		CO	CO	PO		2	0
Least Tern		PO		PR		0	1
Rock Pigeon				PO		0	0
Mourning Dove	PO	PR	CO	PR	PR	1	3
Anna's Hummingbird	CO	PO	PR	PO		1	1
Allen's Hummingbird			PR	PR		0	2
Northern Flicker			PO			0	0
Black Phoebe		PO	PO		PO	0	0
American Crow		PO	PO	PO	CO	1	0
Violet-green Swallow				CO		1	0
Northern Rough-winged Swallow	PO	PO	CO		PR	1	1
Barn Swallow	PO		PO		CO	1	0
Bushtit	PO	PO	CO	CO	PR	2	1
Bewick's Wren			PO	CO		1	0
American Robin			PR			0	1
Northern Mockingbird			PO	CO	CO	2	0
European Starling	PO		PO	PR	CO	1	1
Orange-crowned Warbler				PO		0	0
California Towhee	PO	PO	PR	PR	PO	0	2
Savannah Sparrow		PO	PR	PR		0	2
Song Sparrow	CO	PO	CO	PO	PO	2	0
White-crowned Sparrow		PO	PO	PO	PR	0	1
Red-winged Blackbird		PR	CO	PR	CO	2	2
Western Meadowlark			PO	PO		0	0
Brewer's Blackbird		PR	CO		CO	2	1

Brown-headed Cowbird
 House Finch
 Lesser Goldfinch
 American Goldfinch
 House Sparrow

	PO	PR	PR	PR	0	3
PO	CO	CO	CO	CO	4	0
PO		PO	PO	PO	0	0
PO	PR	PR	CO	PR	1	3
	PO	PR	CO	PR	1	2

Number Probable
 Number Confirmed
 Confirmed or Probable

					Total
0	5	12	8	11	
3	4	11	8	13	22
3	9	23	16	24	35

PO = Possible Breeding
 PR = Probable Breeding
 CO = Confirmed Breeding

Table 4 Park Checklist (Sequence per AOU 47th Supplement, 7/6/06)

	SP	SU	F	W		SP	SU	F	W
Ducks and Geese									
Brant				R	Sharp-shinned Hawk	R			
Canada Goose *	C	C	C	C	Cooper's Hawk	R	R	U	R
Gadwall *	U	U	U	U	Red-shouldered Hawk	R			
Eurasian Wigeon			R	U	Red-tailed Hawk	U	U	U	U
American Wigeon	C	R	C	C	Falcons				
Mallard *	C	C	C	C	American Kestrel *	R		U	U
Blue-winged Teal	R				Merlin			R	R
Cinnamon Teal	R			R	Peregrine Falcon	R	R	R	R
Northern Shoveler	R		U	R	Rails				
Northern Pintail	R	R	U	U	Clapper Rail *	R	R	R	R
Green-winged Teal	C		U	C	American Coot	C		C	C
Canvasback	U	U	R	C	Shorebirds				
Redhead			R	U	Black-bellied Plover	C	C	A	A
Greater Scaup	U	R	C	A	Semipalmated Plover	U	C	C	U
Lesser Scaup	U		C	A	Killdeer *	C	C	C	C
Surf Scoter	C		C	C	Black Oystercatcher	U	C	C	U
Bufflehead	C		C	C	Black-necked Stilt	U	C	C	U
Common Goldeneye	U	R	U	C	American Avocet *	C	C	C	A
Red-breasted Merganser	R		U	U	Spotted Sandpiper	U	U	U	U
Ruddy Duck *	C	U	A	A	Wandering Tattler	R			
Loons, Grebes					Greater Yellowlegs	U	U	C	C
Common Loon			R	R	Willet	A	A	A	A
Pied-billed Grebe	R	R	U	C	Whimbrel	C	U	C	C
Horned Grebe	U		C	C	Long-billed Curlew	C	C	C	C
Eared Grebe	R		U	C	Marbled Godwit	A	A	A	A
Western Grebe	C	C	C	C	Ruddy Turnstone		R		
Clark's Grebe *	C	U	C	C	Black Turnstone	C	C	C	C
Pelicans, Cormorants					Surfbird				R
American White Pelican		C	R		Sanderling	C	U	C	C
Brown Pelican	R	C	C	U	Western Sandpiper	A	A	A	A
Brandt's Cormorant	R	R	R		Least Sandpiper	C	C	C	C
Double-crested Cormorant	C	A	A	A	Dunlin	C	R	A	A
Pelagic Cormorant	R		U	R	dowitcher sp.	C	C	C	C
Hérons, Egrets					Wilson's Snipe				R
Great Blue Heron *	U	U	U	U	Red-necked Phalarope	R	C	C	
Great Egret	U	U	U	U	Red Phalarope				U
Snowy Egret	C	C	C	C	Gulls, Terns				
Green Heron	R				Bonaparte's Gull	R			
Black-crowned Night-Heron	R	U	R		Mew Gull	U			C
Vultures, Hawks, Eagles					Ring-billed Gull	C	C	C	C
Turkey Vulture	U	U	U	U	California Gull	U	C	A	C
Osprey		U	R	U	Herring Gull	R			R
White-tailed Kite	R	R	U	U	Western Gull *	C	C	C	C
Northern Harrier	R	R	R	U	Glaucous-winged Gull	U	R	U	U
					Least Tern*	U	C	U	

	SP	SU	F	W
Caspian Tern	U	C		
Common Tern		R		
Forster's Tern	U	C	C	C
Elegant Tern		A	C	
Black Skimmer		R		
Alcids				
Common Murre		R	R	
Pigeons, doves				
Rock Pigeon	C	U	C	C
Mourning Dove *	C	C	C	C
Owls				
Barn Owl		R		
Burrowing Owl			R	R
Swifts				
White-throated Swift	R	R		U
Hummingbirds				
Anna's Hummingbird *	C	C	C	C
Allen's Hummingbird *	U	U		R
Kingfisher				
Belted Kingfisher		R	R	R
Woodpeckers				
Downy Woodpecker	R		R	R
Northern Flicker	R		U	U
Flycatchers				
Black Phoebe	U	U	C	U
Ash-throated Flycatcher	R			
Western Kingbird	R	R		
Vireos				
Warbling Vireo		R		
Corvids				
Western Scrub-Jay			R	
American Crow *	C	C	C	C
Common Raven	U	R	U	U
Swallows				
Tree Swallow	R	R		
Violet-green Swallow *		R		
N. Rough-winged Swallow *	U	U		R
Cliff Swallow	U	U		
Barn Swallow *	C	C	R	U
Chickadees, Wrens, etc.				
Chestnut-backed Chickadee		R	R	R
Bushtit *	C	C	C	C
Bewick's Wren *	R	R	U	
House Wren			R	
Marsh Wren			R	R

	SP	SU	F	W
Kinglet, Thrushes				
Ruby-crowned Kinglet	R		U	U
Swainson's Thrush		R		
Hermit Thrush			R	R
American Robin *	R	R		R
Thrashers				
Northern Mockingbird *	U	U	U	U
Starling				
European Starling *	C	C	C	C
Pipits				
American Pipit			R	U
Waxwings				
Cedar Waxwing	U		U	
Warblers				
Orange-crowned Warbler	R		R	
Yellow Warbler	R		R	
Yellow-rumped Warbler	U		U	U
Common Yellowthroat			R	R
Wilson's Warbler	R	R		
Sparrows				
Spotted Towhee			R	
California Towhee *	C	C	C	C
Brewer's Sparrow			R	
Savannah Sparrow *	U	U	U	U
Fox Sparrow	R		U	U
Song Sparrow *	C	C	C	C
Lincoln's Sparrow			R	R
White-crowned Sparrow *	C	U	C	C
Golden-crowned Sparrow	C		C	C
Grosbeaks, Buntings				
Black-headed Grosbeak		R		
Blackbirds, Orioles				
Red-winged Blackbird *	C	C	C	C
Western Meadowlark	C		C	C
Brewer's Blackbird *	C	C	C	C
Brown-headed Cowbird *	U	U	R	
Finches				
Purple Finch			R	
House Finch *	C	A	A	C
Lesser Goldfinch	C	C	C	U
American Goldfinch *	U	C	C	U
Weaver Finches				
House Sparrow *	U	C	C	U

Table 5

High Counts for Common Species

Scaup sp	6594
Ruddy Duck	6004
Western Sandpiper	5482
Gull sp.	2652
Dunlin	1355
Black-bellied Plover	1151
Elegant Tern	1130
Willet	1061
Double-crested Cormorant	830
Marbled Godwit	771
House Finch	592
American Avocet	541
Red-winged Blackbird	486
Dowitcher sp.	400
California Gull	367
Least Sandpiper	352
Canada Goose	326
Forster's Tern	291
White-crowned Sparrow	284
European Starling	277
Ring-billed Gull	268
Pied-billed Grebe	228
Bufflehead	227
Brewer's Blackbird	227
Golden-crowned Sparrow	204
American Coot	200
Western Gull	195

Notes: These are minimum numbers for high counts, since some shorebirds were only identified as Western/Least or small shorebirds. The high count for Western Sandpiper was probably several hundred above 5500, taking this into consideration.

Both scaup were identified during the census, but most were only identified generically. The high count for identified Greater Scaup was about 350 and for Lesser Scaup, about 300.

Both dowitcher species were identified during the census, but again, the number of birds reported generically far outnumbered those identified specifically.

Figure 1

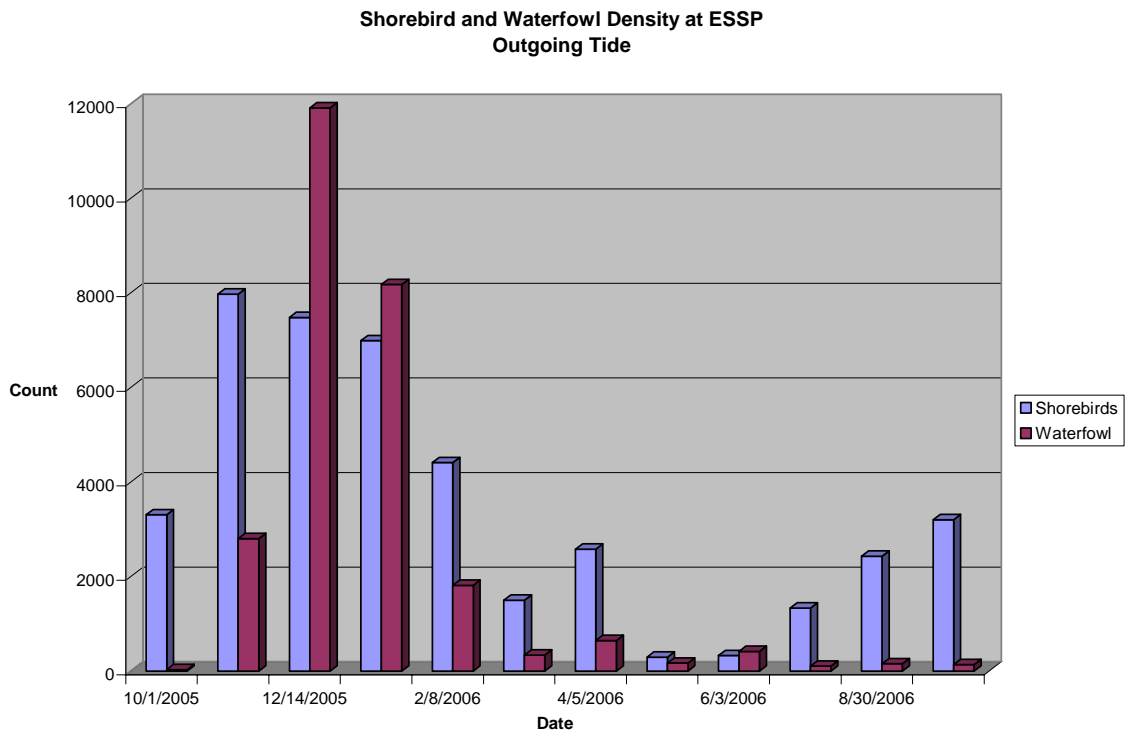


Figure 2 -- Total Species Seen = 147

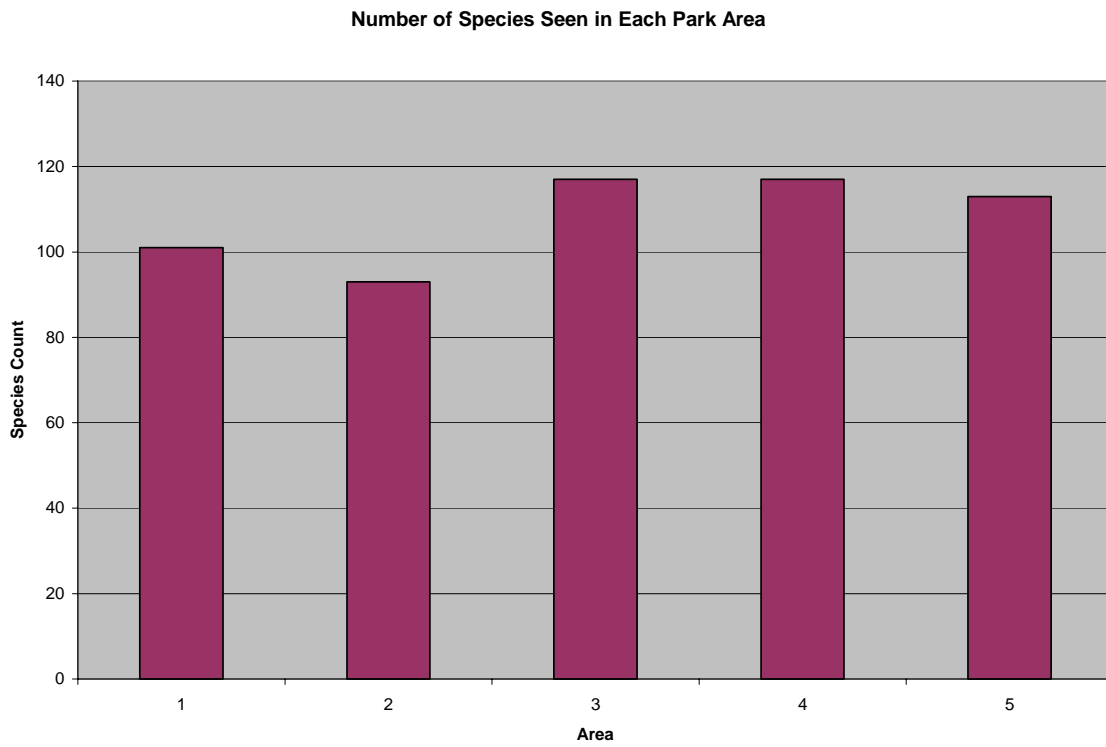
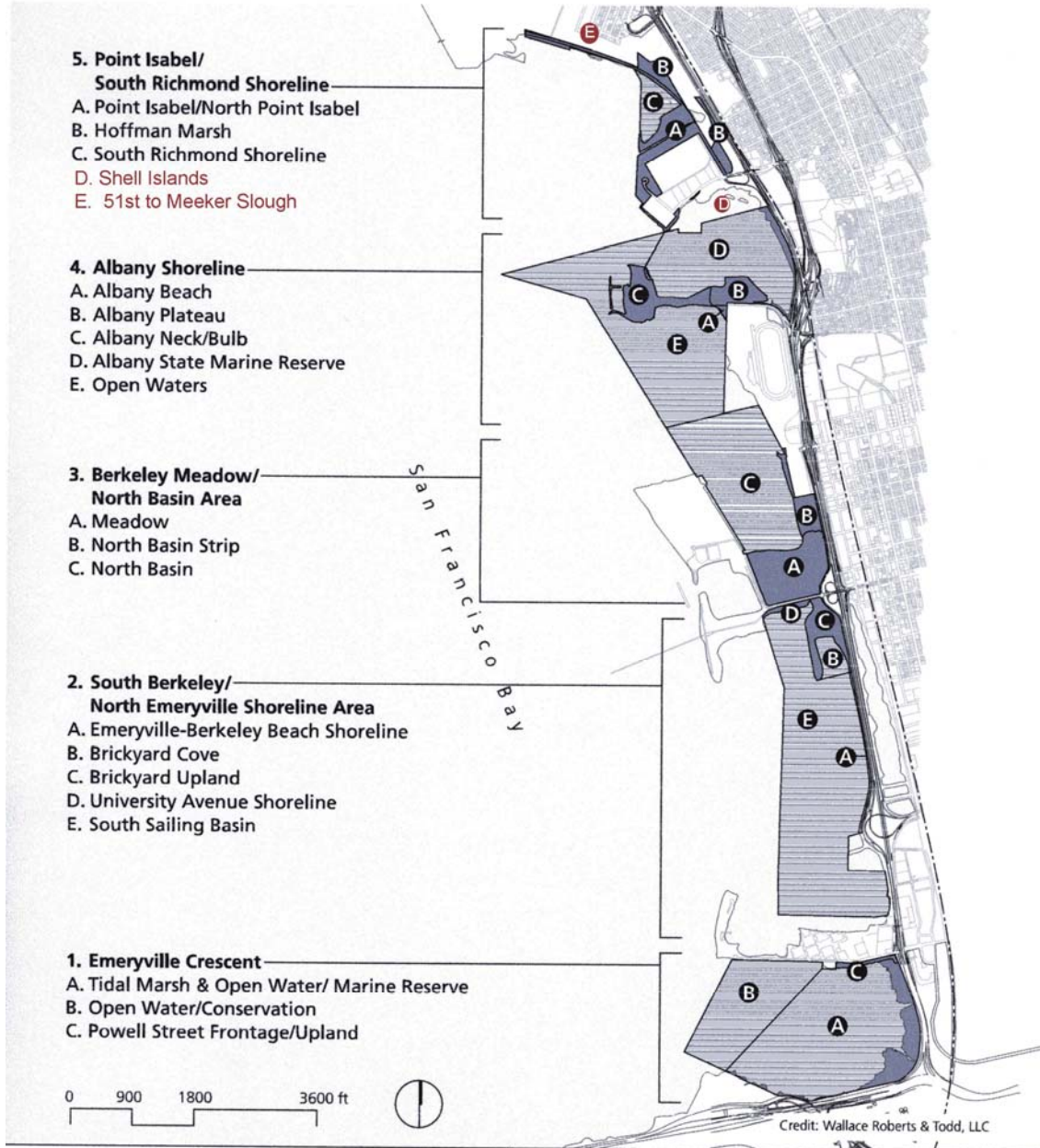


Figure 3 – Map of Main Areas of the Park



Eastshore State Park
General Plan

Figure III-4: Modified for Census
MANAGEMENT ZONES

■ Upland Parklands ■ Aquatic Parklands

Figure 4A -- Total Birds by Subarea
Sum of 24 counts, 6 per season

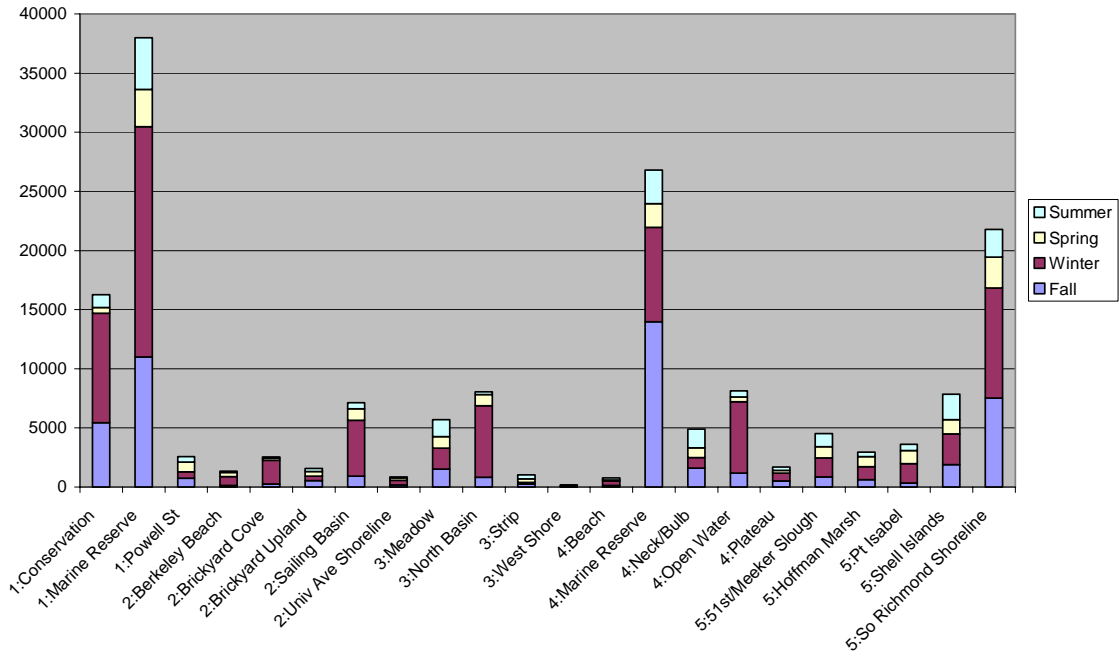


Figure 4B -- Shorebirds by Subarea
Sum of 24 counts, 6 per season

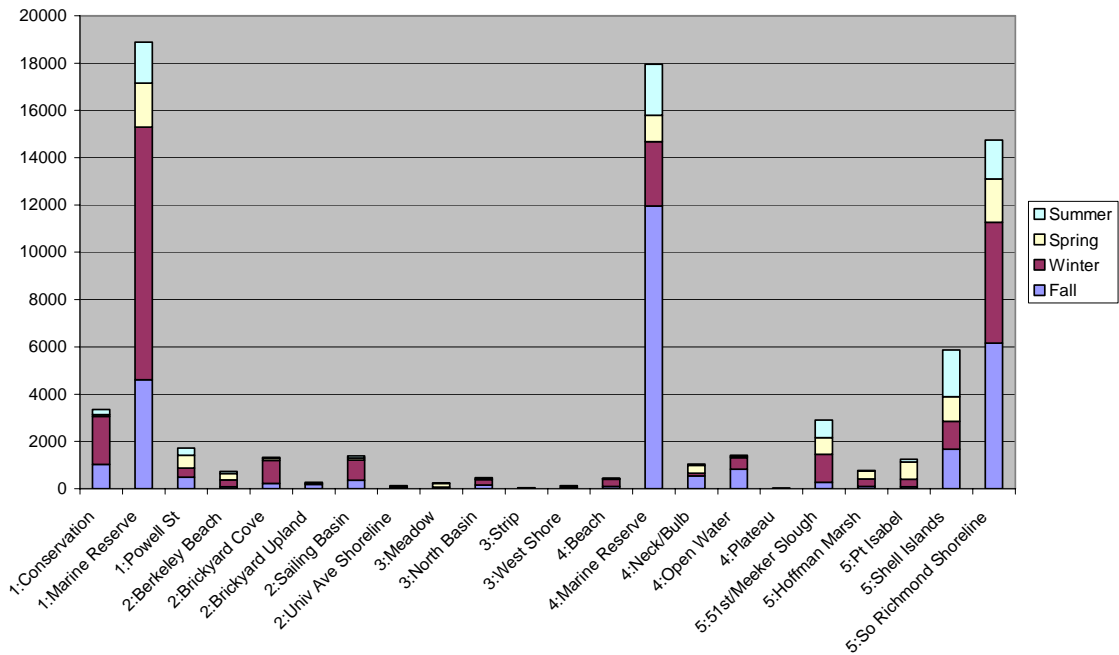
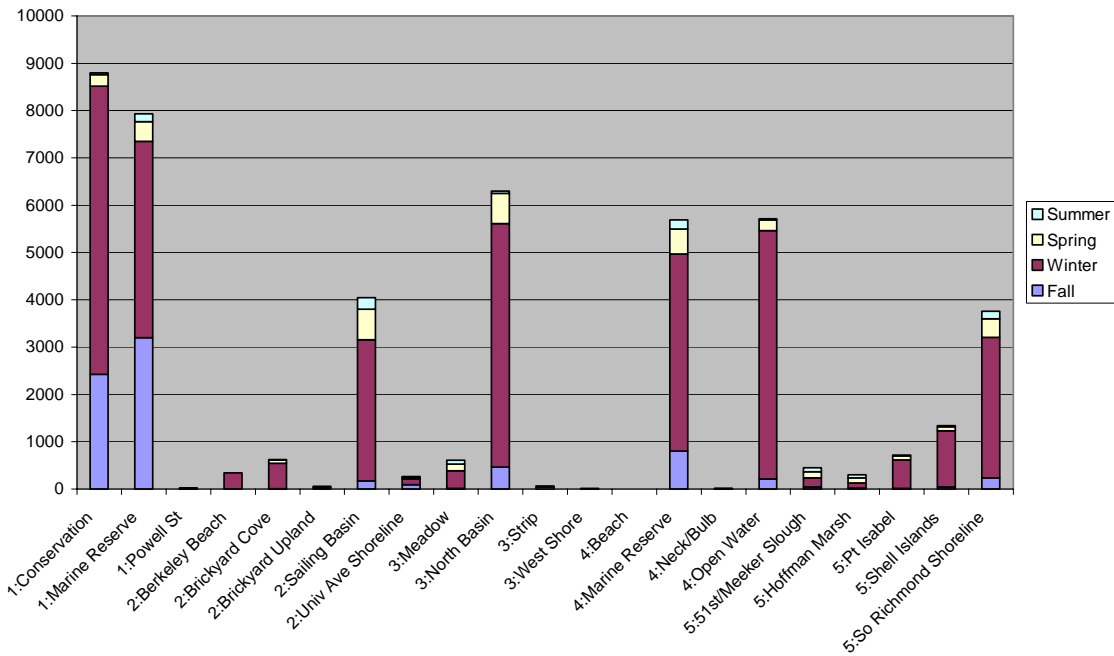


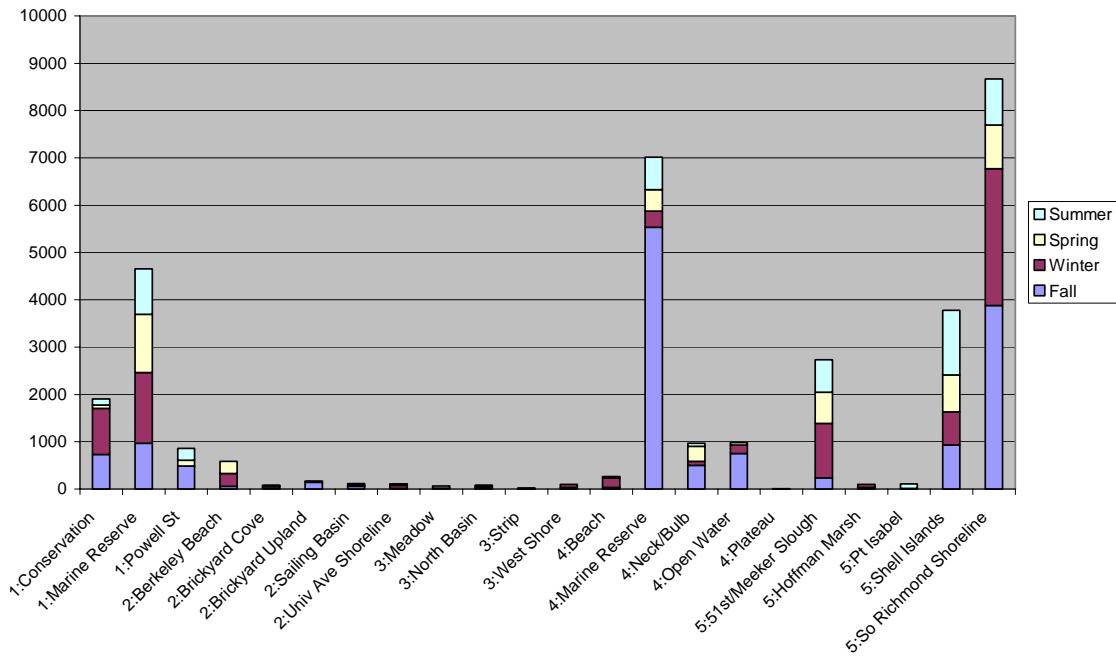
Figure 4C -- Waterfowl by Subarea
Sum of 24 counts, 6 per season



Notes:

- Note scale differences in Figure 4 charts.
- These results include all sightings during all 24 census counts, consisting of 3 high tide and three ebbing tide counts per season.
- “Shorebirds” includes all members of the families *Charadriidae*, *Haematopodidae*, *Recurvirostridae* and *Scolopacidae* (Plovers, Oystercatchers, Stilts & Avocets and Sandpipers & Phalaropes).
- “Waterfowl” include all members of the family *Anatidae* (Ducks, Geese and Swans).

Figure 5 -- Shorebird Counts during High Tides by Subarea and Season



Notes:

- Counts are the sum of three high tide counts for each season
- Shorebirds are defined as noted in Figure 4
- Roosting areas include the shoreline between high tide and highest high tide marks (approximated by censusers) as well as abandoned piers and breakwaters. In area 5.

Appendix I

Welcome to the new Eastshore State Park!

East Shore State Park stretches for 8.5 miles along the shoreline of the East Bay, from Meeker Slough in Richmond to the Emeryville Crescent and the Bay Bridge. It offers great hiking and birding opportunities, as well as wonderful views across the bay. The park is divided into five major Management Zones, shown on the map on the reverse. 1,897 acres of the total 2,262 acres in the park are tidelands. The remaining upland area of 365 acres is divided into land for conservation and recreation. Much of the park is linked by the Bay Trail.

The mudflats at the Emeryville Crescent and Albany Shoreline are some of the richest habitat for shorebirds in the Bay Area. These areas have been designated as Marine Reserves, to protect the birds that depend on them for food during migration or during the winter.

The Berkeley Meadow is undergoing restoration to improve habitat for birds like Northern Harrier and Loggerhead Shrike, as well as amphibians, reptiles, small mammals and native plants. It will be fascinating to see how the wildlife changes as the habitat improves.

The Albany Bulb area provides views of shorebirds in the adjacent Marine Reserve, and hosts numerous small landbirds. Burrowing Owls have nested here in past years. Will they return? The island at the western end of the bulb may serve as an important high tide roost for shorebirds. We'll have to learn which areas of the park are most critical to bird and animal life, in order to protect or improve them.

The State Parks Commission's General Plan for the Park identifies approximately 80% of the park's 260 acres of uplands as "Conservation Areas"—areas that are managed for habitat values but encourage compatible recreation such as hiking, bird-watching, nature photography, etc. While many of Eastshore State Park's uplands are now predominantly covered with exotic invasive plants, restoring these areas will provide much-needed habitat to sustain birds and other wildlife species in the Central Bay.

Golden Gate Audubon is running a year-long program, starting in October 2005, to understand the birdlife in the park. The program consists of a census program involving 10 area surveys per month, supplemented by at least two field trips per month. At the end of the study, we will develop a bird checklist for the park. You can be a part of the fun!

To join the census program, call Golden Gate Audubon at 510-843-2222. Censuses take place on one Saturday and one Wednesday each month. To find out about field trips, check the Golden Gate Audubon publication, "The Gull," or go online at www.goldengateaudubon.org.

Golden Gate Audubon is dedicated to protecting Bay Area birds, other wildlife and their natural habitats. We conserve and restore wildlife habitat, connect people of all ages and backgrounds with the natural world, and educate and engage Bay Area residents in the protection of our shared, local environment.

ESSP BREEDING BIRD SURVEY-2006

BREEDING CRITERIA CODES

OBSERVED O
 O Species (male or female) observed during its breeding season, but no evidence of breeding. Not in suitable nesting habitat. Includes wide ranging species such as vultures or raptors, or a colonial nesting species not at the nesting colony.

POSSIBLE PO
 ✓ Species (male or female) observed in suitable nesting habitat during its breeding season.
 X Singing male present in suitable nesting habitat during its breeding season.

PROBABLE PR
 P Pair observed in suitable habitat during its breeding season.
 S Permanent territory presumed through song at same location on at least 2 occasions 7 or more days apart.

T Permanent territory presumed through defense of territory (chasing individuals of same species).
 C Courtship behavior or copulation.
 N Visiting probable nest-site.
 A Agitated behavior or anxiety calls from adult.
 B Nest building by wrens or excavation of holes by woodpeckers.

CONFIRMED CO
 CN Carrying nest material, such as sticks.
 NB Nest building at the actual nest-site.
 DD Distraction display or injury feigning.
 UN Used nests or eggshells found. Caution: these must be carefully identified.
 PY Precocial young. Flightless young of precocial species restricted to the natal area by dependence on adults or limited mobility.

FL Recently fledged young (either precocial or altricial). Incapable of sustained flight, restricted to natal area by dependence on adults or limited mobility.
 ON Occupied nest: adults entering or leaving a nest-site in circumstances indicating an occupied nest. To be used for nests that are too high (tops of trees) or enclosed (i.e. chimneys) for the contents to be seen.

CF Carrying food: adult carrying food for the young.
 FY Adult feeding recently fledged young.
 FS Adult carrying fecal sac.
 NE Nest with egg (s)
 NY Nest with young seen or heard¹

¹ Presence of cowbird eggs or young is confirmation of both cowbird and host species.

ESSP AREA CODES

1. Emeryville Crescent
 a. Tidal Marsh – Marine Reserve
 b. Open Water – Conservation
 c. Powell St. Frontage – Upland

2. S. Berkeley / N. Emeryville
 a. Emeryville-Berkeley Beach
 b. Brickyard Cove
 c. Brickyard Upland
 d. University Ave. Shoreline
 e. South Sailing Basin

3. Berkeley Meadow / N Basin
 a. Meadow
 b. North Basin Strip
 c. North Basin
 d. West Shore

4. Albany Shoreline
 a. Albany Beach
 b. Albany Plateau
 c. Albany Neck/Bulb
 d. Albany State Marine Reserve
 e. Open Waters

5. Pt Isabel/S. Richmond Shoreline
 a. Point Isabel / N Pt Isabel
 b. Hoffman Marsh
 c. S. Richmond Shoreline
 d. Shell Islands
 e. 51st to Meeker Slough

Return the field data sheet, the Breeding Bird data entry sheets and the map to the Golden Gate Audubon office, 2530 San Pablo Avenue, Suite G, Berkeley, CA 94702

INSTRUCTIONS

This **BREEDING BIRD CENSUS** will be conducted at the Eastshore State Park (ESSP) from May through July. Since we will continue to monitor the presence of ALL birds in the park during this time, please continue to fill in your regular field data sheet.

You will need the following documents:

- This instruction sheet
- The field data sheet normally used for the ESSP census.
- Two ESSP Breeding Bird Data Entry Sheets
- ESSP Maps and suggested census routes available on the GGA web site, previously used for the shorebird and landbird census.

This census covers both water and land birds, so differs from the MLK census being conducted at the nearby shoreline. Record your information on the normal field data sheet for each area and subarea, and also include appropriate Breeding Criteria codes. When done, transfer the data to the data entry sheet.

Please enter the appropriate Breeding Criteria Code on the data sheet for each species sighted on the census day during their breeding season (shown below the species name). For birds seen, which do not meet criteria for PO, PR, CO the correct entry is under the "O" column. Do not make "O" entries outside the breeding season. Follow the entry with the ESSP AREA CODE shown to the left. Enter data on a separate line for each subarea in which the species was observed

Indicate the location of CO or PR entries on the ESSP Map.

NOTE: If a species does not appear on the data entry sheet, it should be considered an unlikely breeder, and additional information documenting the species identity and behavior should be entered under the NOTES section on the data sheet.