SAN FRANCISCO BAY
BIRD OBSERVATORY

# Managed Pond Waterbird Surveys
# September 2013 - August 2014


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## EXECUTIVE SUMMARY

This report serves as a data summary and coarse-scale assessment of waterbird and water quality monitoring efforts at Alviso, Eden Landing, Coyote Hills, Dumbarton, Mowry and Ravenswood pond complexes in the South San Francisco Bay. Coyote Hills, Dumbarton and Mowry salt ponds are owned by Don Edwards San Francisco Bay National Wildlife Refuge and managed for salt production by Cargill Salt. Alviso and Ravenswood complexes are owned and managed by Don Edwards San Francisco Bay National Wildlife Refuge; Eden Landing ponds are owned and managed by California Department of Fish and Wildlife. This report is based on data collected by the San Francisco Bay Bird Observatory between September 2013 and August 2014, although previous years' data are also included in several areas.

The purpose of this ongoing study is to describe avian use of ponds for use by regional waterbird conservation, management, and habitat restoration efforts. The South Bay Salt Pond Restoration Project (SBSPRP) has begun to restore over 15,000 acres of former salt evaporation ponds to a mix of tidal marsh and ponded wetland habitats. As the SBSPRP proceeds, understanding how waterbirds use ponds, identifying key habitat associations, and incorporating features needed by pond-dependent species into restoration design plans will be increasingly important in retaining baseline numbers of waterbirds in the South Bay.

We conducted waterbird surveys and water quality sampling at 82 ponds (22 Cargill-managed salt production ponds and 60 SBSPRP managed ponds). We examined species richness, abundance, and behavior of waterbird assemblages within and between pond complexes. We grouped species into guilds (e.g., dabbling ducks, diving ducks, fish-eating birds, gulls) based on foraging methods and known prey requirements to gain further insights into waterbird use of these ponds.

From September 2013 – August 2014, we recorded 946,728 waterbird observations of 75 species (all sites combined). The Alviso complex supported the highest overall bird count with 365,276 sightings of 69 species, followed closely by Eden Landing with 363,938 sightings of 63 species. The Mowry pond complex had 79,997 waterbird observations of 39 species, followed by Coyote Hills with 67,159 of 55 species, Ravenswood with 42,126 of 50 species and Dumbarton with 28,232 sightings of 37 species. Abundance distributions of most guilds were patchy, suggesting differential habitat use. This is not surprising given that water quality parameters, such as salinity, varied widely, had differential impacts on abundance depending on guild and parameter, and likely affected prey distributions of foraging birds. For example, we rarely found fish-eating birds feeding in high salinity (>120 ppt) ponds, presumably because fish species cannot tolerate high salinities. Similarly, we often observed Eared Grebes, phalaropes, and shorebirds foraging in moderate to high salinity (>60 ppt) ponds, where certain prey items, such as brine shrimp and brine flies, may be available. In some ponds, we observed high proportions of birds on islands, levees, and manmade structures (e.g., blinds, fence posts) offering roosting or nesting habitat, so these features may be equally important in explaining some guild distributions.

As the SBSPRP progresses, we advocate for a precautionary approach to waterbird management and restoration and a strategy that includes maintaining some of the ponds within the project footprint at a variety of salinity levels and water levels suitable for many different guilds. Special consideration should be given to birds that prefer medium to high salinity ponds, such as phalaropes and Eared Grebes, since restoration activities have already reduced the prevalence of these habitat conditions and the remaining high salinity habitat is managed for salt production rather than waterbird optimization. Creating or maintaining islands or undisturbed levees will provide potential nesting and roosting habitat for other species and guilds. As the restoration advances, continued monitoring of avian use of both Cargill-managed and SBSPRP ponds alike will be valuable in assessing progress toward the management target of maintaining current waterbird numbers. However, a landscape perspective may be needed to tease apart

the multitude of factors affecting observed waterbird assemblages on the ponds and to interpret changes in bird numbers operating at different temporal and spatial scales.

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## INTRODUCTION

In 2002, the U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW, formerly California Department of Fish and Game) entered into an historic agreement with Cargill Salt to acquire 15,100 acres of salt evaporator ponds in the South San Francisco Bay. The South Bay Salt Pond Restoration Project (SBSPRP) has begun to restore the area to a mix of tidal and ponded habitats and to continue to provide flood protection and improved public access to many sites.

Salt ponds have been present in the San Francisco Bay for over 150 years (Ver Planck 1958) and have significant wildlife value (Anderson 1970, Accurso 1992, Takekawa et al. 2001, Warnock et al. 2002). Due to the loss of wetlands elsewhere, the ponds now provide important foraging and roosting areas for many waterbirds. As a major migratory and wintering location along the Pacific Flyway, the San Francisco Bay supports more than a million birds throughout the year (Page et al. 1999, Warnock et al. 2002). The SBSPRP has committed to restoring some ponds to tidal marsh, while retaining some pond habitat (as managed ponds) within the project area for waterbirds. Information is needed to ensure that habitat requirements of large numbers of waterbirds can be met with reduced pond acreage, including both salt production ponds and wildlife managed ponds.

The objectives of this ongoing study are to document avian use of current and former salt evaporation ponds in the South San Francisco Bay and to use data collected on waterbird abundance, distribution, and habitat associations to inform regional conservation, management, and habitat restoration efforts. Prior to October 2013, two entities, the U.S. Geological Survey (USGS) and San Francisco Bay Bird Observatory (SFBBO), conducted monthly waterbird surveys and water quality sampling at South Bay ponds. USGS monitored those ponds located within the SBSPRP footprint, while SFBBO monitored those ponds managed by Cargill Salt for salt production. From October 2013 – January 2014 no waterbird surveys were conducted while the project was in transition. Beginning in January 2014, the San Francisco Bay Bird Observatory (SFBBO) conducted waterbird surveys and water quality sampling at 82 South Bay ponds (Cargill-managed and SBSPRP ponds). Surveys are conducted twice during the Spring, Fall, and Winter seasons and once during the Summer season (Figure 1). As the SBSPRP proceeds, understanding how waterbirds use managed ponds, restoration sites and salt production ponds, identifying key habitat associations, and incorporating features needed by marsh or pond-dependent species into restoration design plans will be increasingly important in retaining baseline numbers of waterbirds in the South Bay.

This report summarizes the results of SFBBO's surveys in the South San Francisco Bay pond complexes in September 2013 (at only Cargill-managed ponds) and from January 2014 through August 2014 (at Cargill-managed and SBSPRP ponds) (Figure 1).

## METHODS

### Study Area

The study area includes 82 current and former salt ponds in the Santa Clara, Alameda and San Mateo counties of California. The ponds monitored by SFBBO include 25 ponds in the Alviso complex, 12 ponds in the Coyote Hills complex, 4 ponds in the Dumbarton complex, 25 ponds in the Eden Landing complex, 6 ponds in the Mowry complex and 10 ponds in the Ravenswood complex (Figure 2-Figure 3), Although the Coyote Hills, Dumbarton and Mowry ponds are owned by Don Edwards San Francisco Bay National Wildlife Refuge, Cargill Salt retains salt-making rights and regulates water flow for salt production. The salinity and depth of all surveyed ponds varied over the course of the year due to management practices and business needs of these organizations.

## Waterbird Surveys

We conducted waterbird surveys at each of the 82 ponds in the Alviso, Coyote Hills, Dumbarton, Eden Landing, Mowry and Ravenswood complexes. We performed surveys exclusively at high tide, defined as a tide of 4.0 feet or greater at the Alameda Creek Tide Sub-Station (37° 35.70' N, 122° 08.70' W). During each survey, we observed birds from the nearest drivable road or levee using spotting scopes and binoculars. We counted the total number and recorded the location of all waterbird and raptor species present on each pond using aerial site photos superimposed with 250 $m^2$ individually labeled grids. For each grid-scale sighting of an individual bird or bird group of the same species, we recorded behavioral data (whether the bird or bird group was foraging or roosting). For roosting birds only, we recorded whether we observed the bird or bird group on a levee, an island, or a manmade/artificial structure (e.g., blind, fence post). Pond surveys were randomized beginning in January 2014 as follows: ponds were split into 6 groups based on geographic location and pond complex (Newark & Mowry, Northern Eden Landing, Sourthern Eden Landing, Ravenswood, Western Alviso, Eastern Alviso), a random list of these groups was generated, field crews surveyed any accessible ponds within 1 area each survey day and moved to the next area if no ponds were accessible in that area. All 82 ponds were surveyed within each 6 week survey period.

We identified birds to the species level whenever possible, with the exception of Long-billed and Short-billed Dowitchers (identified as Dowitchers), and Greater and Lesser Scaup (identified as Scaup). When species identification was not possible, we identified birds to genus (e.g., *Calidris*) or foraging guild (e.g., gulls, small shorebirds, medium shorebirds, phalaropes).

## Water Quality Sampling

During each bird survey, we recorded water levels by reading the water level on staff gauges (not present in all ponds). On occasion, staff gauges are removed, replaced, or moved to a different location. We assume that staff gauges are redeployed in a standardized manner, and therefore that staff gauge levels are comparable before and after all changes. In ponds with multiple staff gauges, we recorded only the master staff gauge (indicated by a circle of yellow paint on the gauge post). At low staff gauge levels, observers also visually estimated the proportion of any pond substrate exposed to the air (dry pond bottom or mudflat exposed) to provide a finer-scale characterization of habitat variability.

We sampled water quality separately at 79 ponds (excluded ponds are A8W, E8AE, E8AW) each survey period. Whenever possible, water quality data was collected on the day of the bird survey, but otherwise was collected as close to the date of the bird survey as possible. We recorded dissolved oxygen, salinity, conductivity, pH, and temperature at 1-4 pre-determined sampling sites at each pond using a Hydrolab Minisonde (Hydrolab-Hach Company, Loveland, CO). When salinities exceeded approximately 72 ppt (the maximum value registered by the Hydrolab Minisonde), we calculated salinity using a hydrometer (Ertco, West Paterson, NJ) to measure specific gravity in combination with a temperature reading from the water sample. Additionally, we recorded barometric pressure at the beginning of each day that we collected water quality samples. We calibrated all Hydrolab Minisonde sensors before the start of each sampling day. Refer to Murphy et al. (2007) for detailed water quality monitoring methods.

## Data Summary

*Species Richness*. We calculated species richness as the total number of waterbird species observed (with Dowitchers and Scaup each counting as one "species" since individual species were not distinguished for those taxa) at each pond and pond complex across all surveys from September 2013 to August 2014.

*Abundance*. We calculated abundance as the sum of all bird sightings for each species or guild encountered across all surveys from September 2013 to August 2014. We calculated abundance at the pond, complex, and 250 $m^2$ grid levels. Due to site fidelity of many birds, we believe that the same individuals were likely re-sighted on surveys close together in time and space, so abundance estimates in this report should be interpreted carefully. As treated here, abundance estimates represent aggregated ground counts, or the total bird sightings (as summed across all surveys) for a given location and period of time.

*Behavior*. Of the total bird sightings (across all surveys), we calculated the proportions of birds observed foraging, roosting, and resting on islands, levees, and manmade structures for each pond. We also examined these proportions at the guild level (see *Guilds* below).

*Guilds*. We categorized each species into a foraging guild based on foraging methods and prey requirements (see APPENDIX I). Guilds of primary interest include dabbling ducks (dabblers), diving ducks (divers), Eared Grebes, fish-eating birds (fisheaters), gulls, herons and egrets, medium shorebirds, phalaropes, small shorebirds, and terns. We calculated abundance by guild for each 250 $m^2$ grid within the survey area, and then used these abundances to create guild-specific maps of abundance distributions using ArcGIS software (version 10.1, ESRI, Redlands, CA). We also examined guild abundance by pond, complex, season, and year. For analyses that utilized data from multiple years, we defined years as the year in which the study year started. 2005: September 2005 to August 2006; 2006: September 2006 to August 2007; 2007: September 2007 to August 2008; 2008: September 2008 to August 2009; 2009: September 2009 to August 2010; 2010: September 2010 to August 2011; 2011: September 2011 to August 2012; 2012: September 2012 to August 2013 and 2013: September 2013 to August 2014. We defined seasons as fall (September, October, and November), winter (December, January, and February), spring (March, April, and May), and summer (June, July, and August). Prior to 2013, the annual reports covered a period from October to September. For the fall season, this meant that data collected in October and November 2011 (for example) were lumped together with data from September 2012. In the 2013 report, we shifted the reporting period to September – August to match our seasonal definitions and to facilitate data interpretation.

*Water Quality*. We calculated average monthly salinity, temperature, dissolved oxygen, pH, and water level (based on staff gauge values) for each pond by averaging values taken across all sampling locations within that pond during that period. For the purposes of this report, and for consistency with past SFBBO reports, we confined our summary primarily to full water quality sampling events. Staff gauge values were averaged between all surveys (bird surveys and water quality surveys), but treated as a single value due to potential duplication of data between tables. For each complex, we calculated average salinity for each season (using the season definitions above). In addition, for discussion purposes, we characterized each pond as low (0-60 ppt), moderate (61-120 ppt), or high (>120 ppt) salinity by averaging monthly means across the study period.

## RESULTS & DISCUSSION

Overall, we recorded 946,728 waterbird sightings of 75 species in the Alviso, Coyote Hills, Dumbarton, Eden Landing, Mowry and Ravenswood pond complexes from September 1, 2013 to August 31, 2014 (Table 1). The Alviso complex supported the highest overall bird count with 365,276 sightings of 69 species, followed closely by Eden Landing with 363,938 sightings of 63 species (Table 1, Figure 2, Figure 3). The Mowry pond complex had 79,997 waterbird observations of 39 species, followed by Coyote Hills with 67,159 of 55 species, Ravenswood with 42,126 of 50 species and Dumbarton with 28,232 sightings of 37 species. Most guilds showed patchy abundance distributions (Figure 5-Figure 25),

suggesting differential use of habitat within and between ponds. This is consistent with findings of previous SFBBO reports examining waterbird use of Cargill-managed ponds (e.g., Murphy et al. 2007, Robinson-Nilsen et al. 2009, Robinson-Nilsen and Demers 2012b, Donehower et al. 2013).
We observed birds foraging and roosting in all complexes to varying degrees, and at some ponds, particular guilds used islands, levees, and manmade structures extensively for roosting (Table 2). Some guilds, such as gulls and terns, nested on islands and levees within the ponds. Many guilds also exhibited intra- (Figure 26-Figure 31, Figure 32-Figure 41 b) and inter-annual (Figure 32-Figure 41 a, c) fluctuations in abundance. Seasonal differences are to be expected for many species, such as migratory shorebirds and waterfowl, and a larger landscape context will be needed for separating annual variation and site-level changes from population-level phenomena.

Due to their connectedness, ponds in the same general area exhibited similar water quality patterns. In the salt-production pond complexes (Coyote Hills, Dumbarton and Mowry) salinity tended to increase as water moved through the system, (Table 3, Figure 42). Alviso ponds A5-A8 and A16-A19 were the freshest ponds monitored in the study area, while Alviso ponds A22-A23 and Ravenswood ponds R2-R5 were the most saline (Table 3, Figure 42-Figure 45). Seasonal fluctuations were evident in water temperatures, with colder temperatures in the winter months and warmer temperatures in the summer months (Table 4, Figure 46-Figure 49). Since cold water tends to hold more dissolved oxygen than warm water, ponds tended to show higher dissolved oxygen concentrations in winter months than in summer months (Table 5, Figure 50-Figure 53). pH values tended to vary between ponds, and did not show seasonal fluctuations (Table 6, Figure 54-Figure 57). Influxes of water from rainfall and management practices, time-of-day effects, algal blooms, and rates of photosynthesis and respiration by aquatic biota may also have contributed to fluctuations in water quality parameters. The latter three factors can be particularly important determinants of dissolved oxygen levels and pH (Carpelan 1957). Water levels followed general seasonal trends, with staff gauge readings generally increasing during the winter and decreasing during the summer, presumably due largely to the increase and decrease in rainfall (Table 7, Figure 58-Figure 61). Fourteen ponds within the study area (A19, A22, A23, A6S, A8, A8S, A8W, N4AB, N4B, E4C, E8AE, E8AW, M2 and R5S) did not have staff gauges present. Several staff gauge readings are missing for the Winter 2014 survey period; this is due to the fact that SFBBO staff were unfamiliar with SBSPRP ponds during this initial round of surveys and unable to locate several staff gauges in January and February 2014. Eighteen ponds (A6S, A8, A8S, A19, A22, A23, E4C, E9, E11, E8XN, E8XN, N3A, N6, M1, M2, RSF2U1, RSF2U2, RSF2U4) may exhibit larger fluctuations in water quality measurements than most of the other ponds (Table 3-Table 6, Figure 42-Figure 58) because we could only sample water quality from one site each at these locations; at other ponds, we averaged water quality parameters across 2-4 sampling sites.

Water level and quality parameters likely affected prey availability of foraging birds and contributed, at least in part, to observed guild distribution patterns (see Velasquez 1992, Warnock et al. 2002, Takekawa et al. 2006). Scullen et al. 2013 found that in Cargill-managed ponds, water quality parameters had positive, negative, and no effects on guild abundances, depending on the guild and the water quality parameter. More study is needed, especially across Cargill-managed and SBSPRP ponds, to examine the guild-specific ranges of tolerance for each water quality parameter.

**Alviso**

*Species Richness, Abundance, and Behavior*. From January 13, 2014 to August 31, 2014, we documented 365,276 sightings of 69 species in the Alviso pond complex, the highest species richness and total waterbird abundance out of all the complexes (Table 1). Alviso ponds contained 38.6% of all sightings and comprised 36.4% of the total study area. Pond A9 was the most used pond based on overall bird

counts (89,929 sightings). Compared to other complexes, the Alviso ponds supported the highest proportion of dabblers (64%), divers (79%), gulls (55%) and terns (51%) (Figure 62).

*Water Quality*. The Alviso complex was characterized by the largest range of salinities of all the pond complexes (Table 3, Figure 42). Average salinities ranged from 9.63 ppt (A19, Spring) to 290.00 ppt (A22, Winter). Average salinity tended to be highest in the summer survey period, with the minimum occurring in either the winter or spring survey period (Figure 42). One notable exception was pond A22, which decreased from a winter average of 290 ppt to a spring average of 177.50 ppt. Average temperatures in the Alviso ponds ranged from a low of 11.86°C in A16 in Winter to a high of 30.77°C in A22 in Summer (Table 4). Temperature followed a general trend of increasing in the Summer survey period, but was also likely influenced by survey time (Figure 46). Average dissolved oxygen concentrations ranged from a low of 2.75 mg/L (A22, Spring) to a high of 15.12 mg/L (A12, Summer) (Table 5, Figure 50). Average pH values ranged from a low of 6.15 in A22 in Summer to a high of 9.20 in A3N in Spring (Table 6), and generally did not display seasonal patterns (Figure 54). Staff gauge levels ranged from -1.5 feet at A3W in Winter, to 6.1 feet in A17 in Summer (Table 7, Figure 58).

**Coyote Hills**

*Species Richness, Abundance, and Behavior*. From September 1, 2013 to August 31, 2014, we documented 67,159 sightings of 55 species in the Coyote Hills complex (Table 1). Coyote Hills salt ponds contained 7.1% of all sightings and comprised 12.9% of the total study area (Table 1). Pond N3A was the most used pond based on overall bird counts. Compared to other complexes, the Coyote Hills complex supported the highest proportions of fisheaters (45%) and the second highest proportion of gulls (22%) and terns (26%) (Fig. 40).

*Water Quality*. The Coyote Hills complex was characterized by low salinities with the northern ponds being less saline than the southern ponds. From Fall 2013 – Summer 2014, average salinities ranged from 33.28 ppt (N1A, Fall) to 64.43 ppt (N4, Summer) (Table 3). All ponds followed a similar seasonal pattern with the minimum in Fall, gradually increasing to a relative maximum in late Spring (Figure 43). Average temperatures in the Coyote Hills ponds ranged from a low of 10.96°C in N1A in Winter to a high of 28.17°C in N6 in June (Table 4). Temperatures tended to increase across all ponds from Winter to Summer (Figure 47). Average dissolved oxygen concentrations ranged from a low of 0.75 mg/L in N6 in Summer to a high of 14.21 mg/L in N4AA in Winter (Table 5). Dissolved oxygen values were more variable in North Coyote Hills, but in South Coyote Hills tended to decrease from Winter to their lowest values in Summer (Figure 51). Average pH values ranged from a low of 7.77 in N6 in Summer to a high of 8.77 in N4 in Summer (Table 6), and generally did not display seasonal patterns (Figure 54). Staff gauge levels ranged from 0.9 feet at N4AA in Summer, to 4.8 feet in N1A in Fall and Winter; excluding pond N1A, the maximum staff gauge height was 2.1 feet (Table 7).

**Dumbarton**

*Species Richness, Abundance, and Behavior*. From September 1, 2013 to August 31, 2014, we documented 28,232 waterbird sightings of 37 species in the Dumbarton complex, the lowest species richness and total waterbird abundance out of all the complexes (Table 1). Dumbarton salt ponds contained 3.0% of all waterbird sightings and comprised 6.3% of the total study area (Table 1). Ponds N1 and NPP1 were the most used based on overall bird counts. Compared to other complexes, the Dumbarton complex did not support the highest proportion of any of the guilds studied; however, it supported the third highest proportion of Eared Grebes (10%) and phalaropes (6%) (Figure 62).

*Water Quality*. The Dumbarton complex was characterized by moderate to high salinities (i.e., an annual average exceeding 60 ppt), and salinity tended to increase as water moved east within the system (Table 3, Figure 43). During the current study period, average salinities ranged from 66.06 ppt at N3 in Fall to 134.50 ppt at NPP1 in Spring (Table 3). Salinities tended to increase from Winter to their maximum in late Spring (Figure 43). Average temperatures in the Dumbarton ponds ranged from 14.90°C in N3 in Winter to 26.46°C in N2 in Summer (Table 4). Temperature also showed a seasonal pattern, increasing through the spring to a relative maximum in Summer (Figure 47). Average dissolved oxygen concentrations ranged from a low of 4.37 mg/L in NPP1 in Fall to a high of 9.57 mg/L in N3 in Winter (Table 5).Generally, dissolved oxygen tended to decrease from Winter to Spring and Summer (Figure 51). Average pH values ranged from a low of 8.14 at N1 in Spring to a high of 8.76 at N2 in Fall (Table 6), and generally did not display seasonal patterns (Figure 55). Staff gauge levels ranged from 1.0 feet at N1 in Summer, to 3.2 feet at N3 in Fall and Summer and N2 in Fall (Table 7).

**Eden Landing**

*Species Richness, Abundance, and Behavior*. From January 13, 2014 to August 31, 2014, we documented 363,938 sightings of 63 species in the Eden Landing pond complex, the second highest species richness and total waterbird abundance out of all the complexes, after Alviso (Table 1). Eden Landing ponds contained 38.4% of all sightings and comprised 22.6% of the total study area. Pond E8 was the most used pond based on overall bird counts (81,042 sightings). Compared to other complexes, the Eden Landing ponds supported the highest proportion of herons and egrets (34%), medium shorebirds (52%), phalaropes (80%) and small shorebirds (63%) (Figure 62. Percentage of average guild abundance by complex with relative acreage of the complexes, South San Francisco Bay, California.

*Water Quality*. The Eden Landing complex was characterized by a large range in salinities (Table 3). During the current study period, average salinities ranged from 27.84 ppt at E8XS in Spring to 273.50 ppt at E6C in Summer (Table 3). Salinities tended to increase from Winter to their maximum in Summer, with a notable exception in pond E1C which decreased from an average of 112.62 ppt in Spring to an average of 58.60 ppt in Summer (Figure 44). Average temperatures in the Eden Landing ponds ranged from 13.56°C in E11 in Winter to 29.63°C in N2 in Summer (Table 4). Temperature also showed a seasonal pattern, increasing through the spring to a relative maximum in Summer (Figure 48). Average dissolved oxygen concentrations ranged from a low of 3.20 mg/L in E14 in Summer to a high of 14.39 mg/L in E2 in Winter (Table 5, Figure 52). Average pH values ranged from a low of 7.33 at E6C in Summer to a high of 9.12 at E2 in Winter (Table 6), and generally did not display seasonal patterns (Figure 56). Staff gauge levels ranged from dry at E1C, E5C and E6C in Summer, to 6.9 feet at E12 in Summer (Table 7).

**Mowry**

*Species Richness, Abundance, and Behavior*. From September 1, 2013 to August 31, 2014, we documented 79,997 waterbird sightings of 39 species in the Mowry complex (Table 1). Mowry salt ponds contained 8.5% of all waterbird sightings and comprised 14.4% of the total study area (Table 1). Ponds M4 and M5 were the most used based on overall bird counts. Compared with other complexes, the Mowry complex supported the highest proportion of Eared Grebes (58%) and the second highest proportion of phalaropes (13%) (Figure 62), though overall phalarope counts were low (2,631 total sightings).

*Water Quality*. The Mowry complex was characterized by two low salinity (i.e., an annual average of 0-60 ppt) ponds and four high salinity (i.e., an annual average exceeding 120 ppt) ponds; salinity increased as water moved east within the system (Table 3). During the current study period, average salinities

ranged from 42.56 ppt at M1 in Summer to 194.50 ppt at M6 in Fall (Table 3). Maximum salinity of the Mowry ponds tended to occur in late Spring (April 16 – May 30th), with the exception of M1 which decreased salinity from early to late Spring (Figure 43). Average temperatures ranged from 13.49°C in M1 in Winter to 28.54°C in M6 in Summer (Table 4). Temperature values followed a seasonal pattern, increasing from a low in Winter to a high in Summer (Figure 47). Average dissolved oxygen concentrations ranged from a low of 3.78 mg/L in M4 in Spring to a high of 11.94 mg/L in M1 in Spring (Table 5, Figure 51). Average pH values ranged from a low of 7.58 at M6 in Winter to a high of 8.57 at M2 in Spring (Table 6), and generally did not display seasonal patterns (Figure 55). Staff gauge levels ranged from 1.3 feet at M6 in Summer, to 2.4 feet in M1 in Spring (Table 7).

**Ravenswood**

*Species Richness, Abundance, and Behavior*. From January 13, 2014 to August 31, 2014, we documented 42,126 waterbird sightings of 50 species in the Ravenswood complex (Table 1). Mowry salt ponds contained 4.5% of all waterbird sightings and comprised 7.3% of the total study area (Table 1). Ponds R1 and RSF2U2 were the most used ponds based on overall bird counts. Compared with other complexes, the Ravenswood complex did not support the highest proportion of any of the target guilds, but it did support the third highest proportion of medium shorebirds (16%) and small shorebirds (4%).

*Water Quality*. The Ravenswood complex was characterized by three low salinity (i.e., an annual average of 0-60 ppt) ponds and seven high salinity (i.e., an annual average exceeding 120 ppt) ponds in the north end (Table 3). The ponds on the north end of the complex tend be the highest salinities and the RSF2 ponds on the south end of the complex tend to be the lowest salinity, with the exception of RSF2U3. During the current study period, average salinities ranged from 28.38 ppt at RSF2U1 in Spring to 316.75 ppt at R3 in Summer (Table 3). Salinities in the northern Ravenswood ponds tended to increase from Winter to Summer, with the exception of R4; RSF2U3 showed highest salinities in Winter and late Spring; and RSF2U1, U2 and U4 all showed consistently low salinities (Figure 45). Average temperatures ranged from 12.87°C in RSF2U2 in Winter to 31.97°C in R5 in Summer (Table 4). Temperature values followed a seasonal pattern, increasing from a relative low in Winter to a high in Summer (Figure 49). Average dissolved oxygen concentrations ranged from a low of 1.76 mg/L in R5S in Summer to a high of 11.00 mg/L in RSF2U2 in Winter (Table 5). Dissolved oxygen values in Ravenswood tended to reach a low in late Spring or Summer (Figure 53). Average pH values ranged from a low of 5.94 at R5 in Summer to a high of 8.47 at RSF2U1 in Summer (Table 6), and generally did not display seasonal patterns (Figure 57). Staff gauge levels ranged from many dry ponds in the north end (R1-R5S) in Winter, Spring and Summer, to 5.7 feet in RSF2U1 in Winter (Table 7).

**Guilds**

*Dabblers.* By complex, dabbling duck abundance was highest in Alviso ponds A9, A16 and A14; Coyote Hills ponds N3A and N4AA; Dumbarton ponds N1 and N2; Eden Landing ponds E6A and E4C; Mowry pond M5; and Ravenswood pond RSF2U2 (Table 8, Figure 6-Figure 7). Overall, A9 had the highest total count (19,225 observations), followed by E6A (11,489) and N3A (7,004) (). These ponds also had low salinities (Table 3). At A9, E6A and N3A, we observed the majority of dabblers roosting (55.4%, 74.3% and 86.8% of sightings, respectively) (Table 8). Previous reports found no significant water quality effects on dabbling ducks indicating that this guild may be flexible with respect to different water quality parameters (Scullen et al. 2013).

*Divers*. By complex, diving duck abundance was highest in Alviso ponds A2W, A5, A1, A14 and A9; Coyote Hills ponds N1A and N3A; Dumbarton pond N1; Eden Landing ponds E1 and E6A; Mowry

ponds M4 and M5; and Ravenswood pond R1 (Table 9, Figure 8, Figure 9). Overall, A2W had the highest total count (15,922 observations), followed by A5 (11,137) and A1 (9,480) (Table 9, Figure 42-Figure 45). These ponds had low salinities (Table 3). Diving ducks appeared to use these ponds primarily for roosting (91.7-98.3% of sightings per pond) (Table 9). Previous reports found that diving ducks demonstrated a significant increase in abundance with increases in dissolved oxygen or staff gauge levels and a significant decrease in abundance with increases in salinity (Scullen et al. 2013).

*Eared Grebes*. As the SBSPRP continues, state and federal land managers are concerned that the loss of medium and high salinity ponds may impact species like Eared Grebes that depend on these habitats. By complex, Eared Grebe abundance was highest in Alviso ponds A12, A15 and A13; Coyote Hills pond N2A; Dumbarton ponds NPP1, N3, and N1; Eden Landing pond E6C; Mowry ponds M4, M3, M5, and M6; and Ravenswood ponds R1 and R3 (Table 10, Figure 10, Figure 11). Overall, M4 had the highest total count (11,977 observations), followed by M3 (4,974), and A12 (4,441) (Table 10). These ponds all had high salinity values (Table 3, Figure 42-Figure 45). We observed Eared Grebes primarily roosting on pond M4 (73.0% of observations); while on M3 and A12 they were observed primarily foraging (62.4% and 52.7% of sightings, respectively) (Table 10). Previous reports noted that Eared Grebes showed a significant increase in abundance with increases in pH, salinity, or staff gauge values; and a significant decrease in abundance with increase in temperature (Scullen et al. 2013). Although the highest Eared Grebe counts were on higher salinity ponds, we observed higher percentages of foraging birds on low to medium salinity ponds (Table 10).

*Fisheaters*. By complex, fisheater abundance was highest in Alviso ponds A10 and A11; Coyote Hills ponds N3A, N4AB, and N4AA; Dumbarton pond N3; Eden Landing ponds E6A and E2; Mowry pond M1; and Ravenswood pond RSF2U1 (Table 11, Figure 12). Overall, N3A had the highest total count (2,769 observations), followed by N4AB (2,614) and A10 (1,053) (Table 11). These ponds all had low salinity values (Table 3, Figure 42-Figure 45). On N3A and N4AB, we observed fisheaters primarily on levees (81.2% and 55.0% of sightings per pond, respectively); on A10, we observed fisheaters on islands (49.3%) and levees (42.2%) (Table 11). Fish in the South Bay salt ponds cannot survive in salinities greater than 80 ppt (Carpelan 1957), which limits the salinity range where we would expect to observe fish-eating birds foraging. Previous reports showed that fisheaters showed a significant increase in abundance with increases in staff gauge values, and a significant decrease in abundance with increases in dissolved oxygen or salinity (Scullen et al. 2013). Increased staff gauge levels (indicating deeper water levels) provide deeper foraging habitat for fisheaters, while increased salinity (above 80 ppt) is generally detrimental to fish survival.

*Terns*. Compared to most other guilds, counts of terns were low overall (3,602 observations) as these species are largely here only during the spring and summer months. By complex, tern abundance was highest in Alviso ponds A1, A3W and A2W; Coyote Hills ponds N3A and N4AB; Dumbarton pond N1; Eden Landing ponds E2 and E7; Mowry pond M1; and Ravenswood pond R1 (Table 12, Figure 14-Figure 15). Overall, N3A had the highest total count (371 observations), followed by A1 (241) and A3W (236) (Table 12). These ponds all had low salinity values (Table 3, Figure 42-Figure 45). On N3A, we observed terns primarily on levees (86.5% of sightings); on A1 we observed terns primarily on manmade structures (94.6% of sightings); and on A2W we observed terns using manmade structures and levees (51.2% and 44.7% of sightings, respectively) (Figure 14-Figure 15). Previous reports found that terns showed no significant changes with any water quality parameter (Scullen et al. 2013). High counts of terns generally correspond to nesting colony locations (C. Strong, pers. comm.).

*Gulls*. By complex, gull abundance was highest in Alviso ponds A14, A9 and A10; Coyote Hills ponds N3A, N6 and N7; Dumbarton ponds NPP1 and N1; Eden Landing pond E6A; Mowry ponds M3 and M4; and Ravenswood ponds R2 and R1 (Table 13, Figure 16-Figure 17). Overall, A14 had the highest total

count (17,181 observations), followed by A9 (13,155), and A10 (10,056) (). Salinity values at these ponds were low (Table 3, Figure 42-Figure 45). On A9, A10 and A14, we observed gulls almost exclusively on levees (78.4%, 92.5% and 99.7% of sightings, respectively), largely due to breeding colonies present during the summer; on A9 (Table 13). Previous reports found that gulls showed a significant increase in abundance with increases in pH, salinity, or staff gauge levels (Scullen et al. 2013). We observed gulls foraging in high numbers at other medium and high salinity ponds (A13, A15, E4, E6C, N1, N2, NPP1, M3, M6, R1 and R3) (Table 13), likely on the abundance of brine shrimp and brine flies at these locations. In the current study period, we observed breeding California Gull colonies on levees and islands at A1, AB2, A5, A9, A10, A11, A14, N2A, N3A, N4AB, N6, N7, N9, M1, M2, M3, M4 and M5 (Figure 16, Figure 17). In 2014, 53,024 California Gulls were estimated to be breeding in the South San Francisco Bay, although this species is present along with 7 other gull species during the winter months as well (Tokatlian et al. 2014).

*Medium Shorebirds*. By complex, medium shorebird abundance was highest in Alviso ponds A9, A6S and A12; Coyote Hills pond N2A; Dumbarton pond N1; Eden Landing ponds E8, E9, E4C and E6A; Mowry pond M1; and Ravenswood ponds RSF2U2 and R1 (Table 14, Figure 18-Figure 19). Overall, E8 had the highest total count (10,485 observations), followed by RSF2U2 (9,582), and E9 (8,087) (Table 14). These ponds had low salinity values (Table 3, Figure 42Figure 45). At E8, we observed medium shorebirds almost exclusively roosting (98.8% of sightings); at RSFSU2 we observed medium shorebirds predominantly on islands (56.3%) and roosting (43.7%); and at E9 we observed medium shorebirds predominantly roosting (59.3%) and on islands (31.0%) (Table 14). Previous reports showed that medium shorebirds showed a significant increase in abundance with increases in salinity or staff gauge levels (Scullen et al. 2013). The positive association with staff gauge levels is likely not a linear relationship, and may be due to prey abundance and distribution in varying water depths, or perhaps related to increased island formation and isolation from predators. We would need bathymetric data for each pond to better understand the relationship between staff gauge level, pond depth and shorebird use. Shorebird use of ponds is highly tide dependent (Warnock et al. 2001), and many shorebird species in the San Francisco Bay use ponds as high tide refugia for roosting and foraging. Therefore, the presence of roosting islands or levees that are closed to public access and adjacent to quality foraging mudflat habitat are integral for shorebirds in ponds.

*Phalaropes*. Phalarope abundance was low overall, with only 2,631 observations. By complex, phalarope abundance was highest in Alviso pond A13; Coyote Hills ponds N1A; Dumbarton pond NPP1; Mowry pond M3; and Ravenswood pond R1 (Table 15, Figure 20). Overall, E5 had the highest total count (1,952 observations), followed by M3 (396) and NPP1 (195) (Table 15). These ponds had medium (E5) to high (M3, NPP1) salinity values (Table 3, Figure 42-Figure 45). At E5 and M3, we observed phalaropes exclusively foraging (100% of total sightings), and at NPP1 we observed phalaropes foraging (66.7%) and roosting (33.3%) (Table 15). Like Eared Grebes, land managers are concerned that the loss of medium and high salinity ponds may impact phalaropes, which depend on highly saline bodies of water that host brine flies and brine shrimp (Cullen et al. 1999). Since the onset of this project in 2005, sightings of phalaropes have fluctuated widely (e.g., over 10,000 observations in the 2006-2007 study year, versus fewer than 1,000 in the 2009-2010 study year) (Figure 39 a). It is difficult to know if habitat changes, sampling techniques, or pond management practices are resulting in these observed fluctuations. In addition, phalaropes migrate through the Bay during a relatively short time period, and we may miss sampling ponds during peak phalarope migration by surveying the ponds only once or twice per season. In the current study period, we only observed phalaropes on 15 of the 82 ponds, with only 1 observation at Coyote Hills (N1A) and 6 observations at Ravenswood (R1).

*Small Shorebirds*. By complex, small shorebird abundance was highest in Alviso ponds A9, A12 and A22; Coyote Hills pond N3A; Dumbarton ponds NPP1 and N1; Eden Landing ponds E8, E12, E6B, E6A

and E13; Mowry pond M5; and Ravenswood pond R1 (Table 16, Figure 22, Figure 23). Overall, E8 had the highest total count (69,946 observations), followed by A9 (41,397) and E12 (36,031) (Table 16). These ponds had low salinity values (Table 3, Figure 42-Figure 45). At E8 and A9, we observed most small shorebirds roosting (88.1% and 84.1% of sightings, respectively); and at E12 we observed small shorebirds on islands (53.8%) and roosting (41.7%) (Table 16). Previous reports found that small shorebirds showed a significant increase in abundance with increases in salinity or temperature and a significant decrease in abundance with increases in pH (Scullen et al. 2013). As noted for medium shorebirds, islands and levees in the salt ponds may offer high tide refugia for shorebirds in the San Francisco Bay. Small shorebird sightings have declined in recent years at the Cargill salt ponds, primarily due to reduced sightings at the Dumbarton complex (Figure 40 a). However, small shorebird increases have been reported during this period by Brand et al. (2011) at SBSPRP locations.

*Herons and Egrets*. Heron and egret abundance was low overall, with only 2,377 observations (Table 17). By complex, heron and egret abundance was highest in Alviso ponds A9, A17 and A16; Coyote Hills ponds N9, N4, N1A and N4AA; in Dumbarton pond N3; in Mowry ponds M1 and M2; and in Ravenswood pond RSF2U1 (Table 17, Figure 24, Figure 25). Overall, E6A had the highest total counts (294) followed by E2 (134) and A9 (117) (Table 17). Salinity values in these ponds ranged were low (Table 3, Figure 42-Figure 45). On E6A, we observed herons and egrets on levees (53.1% of observations) and roosting (39.8%); on E2 and A9, we observed herons and egrets primarily foraging (78.4% and 68.4%, respectively) (Table 17). Previous reports have shown that herons and egrets show a significant decrease in abundance with increases in salinity or staff gauge values (Scullen et al. 2013). Higher salinity levels (above 80 ppt) are generally detrimental to fish survival, and fish are a primary prey item for herons and egrets. Increased pond depths may allow fish to escape beyond the reach of herons and egrets, while shallow ponds may provide better (or simply a larger area of) foraging habitat.

**Considerations for Future Study**

We emphasize that this report serves as a data summary and coarse-scale assessment of waterbird and water quality monitoring efforts at Cargill-managed ponds. In general, more advanced analyses are needed to tease apart complex temporal and spatial patterns operating at different scales within this dynamic system. Analyses considering both Cargill-managed ponds and SBSPRP areas together will be especially informative. For example, examining annual decreases at Cargill-managed ponds coupled with corresponding increases at SBSPRP ponds (or vice versa) could indicate that the South Bay ponds operate as a single complex for certain species or guilds (Murphy et al. 2007). For other species, changes in numbers may be driven by factors operating on much larger (e.g., Pacific Flyway) geographic scales (Murphy et al. 2007).

In recent years, the topic of local bird movement and its effect on our ability to assess true waterbird abundance within the ponds has generated some interesting discussion among agency, academic, and nonprofit biologists, statisticians, and resource professionals. Currently, we (SFBBO and other entities) do not have the ability to quantify local bird movement in time and space through our ground count methodology, as pond ground counts are not conducted on the same day within a given month due to staff, equipment, and other resource constraints. Nevertheless, quantifying bird movement would seem a valuable addition in determining how closely ground counts reflect true waterbird abundance. In future trials, repeated, staggered counts of the same ponds conducted on the same day by the same observer may be performed to address this issue and to determine if a correction factor should be applied to ground counts to better approximate true waterbird abundance.

For some guilds that migrate through the area rather quickly, such as phalaropes, monthly surveys may not be adequate to accurately monitor their use of salt ponds. More frequent sampling may be required during phalarope migration. Robinson-Nilsen and Demers (2012b) suggested intervals of 2-3 days.

In the future, we suggest that additional resources be devoted to examining habitat selection explicitly. This would require comparing use versus availability of different habitat features or characteristics in the ponds. We would need to gather additional site information for this type of analysis. For example, since pond depth likely varies over finer spatial scales than the current staff gauges and visual estimates provide, acquiring bathymetric data would be particularly valuable.

Additionally, we recommend future studies examining the relationship between behavior (particularly foraging and roosting) and water quality parameters to better understand habitat requirements for each of these activities. Some species may prefer different foraging and roosting habitats. As a result, management priorities based on associations between abundance and water quality parameters alone may fail to include the full range of conditions needed by a particular guild. Since relationships between behavior and water quality parameters may not be linear, it would be beneficial to characterize the function of the relationship (linear, logarithmic, polynomial, etc.) and generate ideal parameter ranges for each species.

### Management Recommendations for the South Bay

The ponds of the South San Francisco Bay have long been recognized as an important waterbird migration and wintering site (Takekawa et al. 2001, Warnock et al. 2002). The ponds within the study area are managed for different uses and have widely ranging salinities, water depths, and site features, which influence bird use. In order for the South Bay to retain its current bird numbers, we make the following recommendations for the South Bay Salt Pond Restoration Project's Project Management Team, the Don Edwards San Francisco Bay National Wildlife Refuge, and the California Department of Fish and Wildlife to consider while managing ponds within the restoration project area:

1. Maintain the pond systems to have a variety of water quality parameter levels, thereby supporting guilds with different habitat requirements. Special consideration should be given to species of local concern within the SBSPRP management area, such as phalaropes and Eared Grebes.

2. Provide islands or undisturbed levees for shorebird roosting habitat, and nesting habitat for other species. This is especially important during high tides.

3. Continue monitoring waterbird use of Cargill-managed and SBSPRP ponds as the project proceeds with its restoration activities. More attention should be given to California Gulls, in particular, to understand the dynamics (and consequences for other species) of this rapidly expanding gull population.

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## LITERATURE CITED


Accurso, L. M. 1992. Distribution and abundance of wintering waterfowl on San Francisco Bay 1988-1990. Master's Thesis. Humboldt State University, Arcata, CA.

Anderson, W. 1970. A preliminary study of the relationship of salt ponds and wildlife – South San Francisco Bay. California Fish and Game 56: 240–252.

Brand, L. A, J. Y. Takekawa, J. Bluso-Demers, E. Mruz, J. Krause, and C. Strong. 2011. Shorebird and duck responses to pond management in the South Bay salt ponds. Invited presentation. South Bay Science Symposium 2011: Phase 1 Restoration of the South Bay. February 3, 2011. Menlo Park, CA.

Cameron, A. C., and P. Trivedi. 2013. Regression analysis of count data. Volume 53. Cambridge University Press. Cambridge, UK.

Carpelan, L. H. 1957. Hydrobiology of the Alviso salt ponds. Ecology 38: 375-390.

Cullen, S. A., J. R. Jehl, Jr., and G. L. Nuechterlein. 1999. Eared Grebe (*Podiceps nigricollis*). *In* Birds of North America, No. 433 (A. Poole and F. Gill, Eds.). The Birds of North America, Inc., Philadelphia, PA.

Donehower, C., J. Scullen, K. Tokatlian. 2013. Salt Pond Waterbird Surveys Data Summary, October 2011 – September 2012. Unpublished report. San Francisco Bay Bird Observatory, Milpitas, CA.

Murphy, A., C. Strong, D. Le Fer, and S. Hudson. 2007. Interim Cargill salt pond report. Unpublished report. San Francisco Bay Bird Observatory, Milpitas, CA.

Page, G. W., L. E. Stenzel, and C. M. Wolfe. 1999. Aspects of the occurrence of shorebirds on a central California estuary. Studies in Avian Biology 2: 15–32.

Robinson-Nilsen, C., J. Demers, and S. Scott. 2009. Cargill pond waterbird surveys report 2005-2008. Unpublished report. San Francisco Bay Bird Observatory, Milpitas, CA.

Robinson-Nilsen, C. and J. Bluso-Demers. 2012a. California Gull breeding surveys and hazing project. Unpublished report. San Francisco Bay Bird Observatory, Milpitas, CA.

Robinson-Nilsen, C. and J. Bluso-Demers. 2012b. Salt pond waterbird surveys report, October 2010-September 2011. Unpublished report. San Francisco Bay Bird Observatory, Milpitas, CA.

Scullen, J., E. Taketa, and C.E. Burns. 2013. Salt Pond Waterbird Surveys Data Summary, September 2012 – August 2013. Unpublished report. San Francisco Bay Bird Observatory, Milpitas, CA.

Takekawa, J. Y., C. T. Lu, and R. T. Pratt. 2001. Bird communities in salt evaporation ponds and baylands of the northern San Francisco Bay estuary. Hydrobiologia 466: 317–328.

Takekawa, J. Y., A. K. Miles, D. H. Schoellhamer, N. D. Athearn, C. Jannusch, M. K. Saiki, W. D. Duffy, and S. Kleinschmidt. 2006. Trophic structure and avian communities across a salinity gradient in evaporation ponds of the San Francisco Bay estuary. Hydrobiologia 567: 307-327.

Tokatlian, K., and C. Donehower. 2013. Citizen Science-based Colonial Waterbird Monitoring: 2013 Nesting Summary. Unpublished report. San Francisco Bay Bird Observatory, Milpitas, CA.

Tokatlian, K., K. Butler and C.E. Burns. 2014. Citizen Science-based Colonial Waterbird Monitoring: 2014 Nesting Summary. Unpublished report. San Francisco Bay Bird Observatory, Milpitas, CA.

Velasquez, C. 1992. Managing artificial saltpans as a waterbird habitat: species' response to water level manipulation. Colonial Waterbirds 15: 43-55.

Ver Planck, W. E. 1958. Salt in California. California Division of Mines Bulletin, No. 175.

Warnock, N., G. W. Page, T. D. Ruhlen, N. Nur, J. Y. Takekawa, and J. T. Hanson. 2002. Management and conservation of San Francisco Bay salt ponds: effects of pond salinity, area, tide, and season on Pacific Flyway waterbirds. Waterbirds 25: 79–92.

Table 1. Waterbird species richness, abundance (total sightings for all species combined), and acreage by pond complex and individual pond, Don Edwards San Francisco Bay National Wildlife Refuge, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. Ponds marked with a '*' symbol are tidal.

| Complex | Pond | Species Richness | Abundance (Total Sightings) | Percent of Total Sightings in Survey Area | Acreage | Percent of Total Acreage in Survey Area |
|---|---|---|---|---|---|---|
| Alviso | A1 | 36 | 11279 | 1.2 | 280.83 | 1.4 |
| | A10 | 27 | 15087 | 1.6 | 255.86 | 1.3 |
| | A11 | 29 | 11722 | 1.2 | 267.79 | 1.3 |
| | A12 | 23 | 35855 | 3.8 | 315.84 | 1.6 |
| | A13 | 21 | 7622 | 0.8 | 274.42 | 1.4 |
| | A14 | 29 | 33038 | 3.5 | 349.09 | 1.7 |
| | A15 | 24 | 6159 | 0.7 | 259.44 | 1.3 |
| | A16 | 46 | 12783 | 1.4 | 248.80 | 1.2 |
| | A17 | 27 | 5039 | 0.5 | 135.31 | 0.7 |
| | A19* | 29 | 9444 | 1.0 | 269.14 | 1.3 |
| | A22 | 7 | 16847 | 1.8 | 274.33 | 1.4 |
| | A23 | 7 | 16456 | 1.7 | 457.19 | 2.3 |
| | A2E | 31 | 7200 | 0.8 | 326.04 | 1.6 |
| | A2W | 40 | 18631 | 2.0 | 439.42 | 2.2 |
| | A3N | 20 | 10784 | 1.1 | 168.89 | 0.8 |
| | A3W | 40 | 9456 | 1.0 | 573.45 | 2.8 |
| | A5 | 37 | 15869 | 1.7 | 645.97 | 3.2 |
| | A6S* | 21 | 9627 | 1.0 | 281.26 | 1.4 |
| | A7 | 34 | 7096 | 0.8 | 270.21 | 1.3 |
| | A8 | 30 | 3683 | 0.4 | 415.09 | 2.0 |
| | A8S | 26 | 979 | 0.1 | 170.79 | 0.8 |
| | A8W | 26 | 203 | 0.0 | 15.99 | 0.1 |
| | A9 | 44 | 89929 | 9.5 | 373.20 | 1.8 |
| | AB1 | 33 | 3579 | 0.4 | 153.83 | 0.8 |
| | AB2 | 31 | 6909 | 0.7 | 182.23 | 0.9 |
| | **Subtotal** | **69** | **365276** | **38.6** | **7404.41** | **36.4** |

Table 1. Waterbird species richness, abundance (total sightings for all species combined), and acreage by pond complex and individual pond, Don Edwards San Francisco Bay National Wildlife Refuge, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. Ponds marked with a '*' symbol are tidal.

| Complex | Pond | Species Richness | Abundance (Total Sightings) | Percent of Total Sightings in Survey Area | Acreage | Percent of Total Acreage in Survey Area |
|---|---|---|---|---|---|---|
| Coyote Hills | N1A | 36 | 4647 | 0.5 | 168.56 | 0.8 |
| | N2A | 35 | 7517 | 0.8 | 170.23 | 0.8 |
| | N3A | 32 | 21275 | 2.3 | 420.48 | 2.1 |
| | N4 | 21 | 3090 | 0.3 | 341.49 | 1.7 |
| | N4AA | 33 | 3801 | 0.4 | 302.32 | 1.5 |
| | N4AB | 37 | 7495 | 0.8 | 238.30 | 1.2 |
| | N4B | 22 | 524 | 0.1 | 64.21 | 0.3 |
| | N5 | 20 | 1283 | 0.1 | 194.29 | 1.0 |
| | N6 | 17 | 6778 | 0.7 | 94.28 | 0.5 |
| | N7 | 20 | 4415 | 0.5 | 382.14 | 1.9 |
| | N8 | 25 | 2330 | 0.3 | 114.19 | 0.6 |
| | N9 | 23 | 4004 | 0.4 | 137.28 | 0.7 |
| | **Subtotal** | **55** | **67159** | **7.1** | **2627.77** | **12.9** |
| Dumbarton | N1 | 27 | 11225 | 1.2 | 345.39 | 1.7 |
| | N2 | 18 | 2937 | 0.3 | 195.33 | 1.0 |
| | N3 | 28 | 2909 | 0.3 | 553.55 | 2.7 |
| | NPP1 | 21 | 11161 | 1.2 | 193.25 | 1.0 |
| | **Subtotal** | **37** | **28232** | **3.0** | **1287.52** | **6.3** |

Table 1. Waterbird species richness, abundance (total sightings for all species combined), and acreage by pond complex and individual pond, Don Edwards San Francisco Bay National Wildlife Refuge, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. Ponds marked with a '*' symbol are tidal.

| Complex | Pond | Species Richness | Abundance (Total Sightings) | Percent of Total Sightings in Survey Area | Acreage | Percent of Total Acreage in Survey Area |
|---|---|---|---|---|---|---|
| Eden Landing | E1 | 26 | 9098 | 1.0 | 297.46 | 1.5 |
| | E10 | 33 | 1917 | 0.2 | 215.70 | 1.1 |
| | E11 | 28 | 15862 | 1.7 | 126.13 | 0.6 |
| | E12 | 32 | 37625 | 4.0 | 107.62 | 0.5 |
| | E13 | 21 | 22158 | 2.3 | 144.72 | 0.7 |
| | E14 | 23 | 4505 | 0.5 | 166.23 | 0.8 |
| | E1C | 24 | 8192 | 0.9 | 64.42 | 0.3 |
| | E2 | 35 | 3931 | 0.4 | 685.27 | 3.4 |
| | E2C | 20 | 2148 | 0.2 | 28.31 | 0.1 |
| | E3C | 29 | 5815 | 0.6 | 166.68 | 0.8 |
| | E4 | 20 | 1568 | 0.2 | 194.49 | 1.0 |
| | E4C | 21 | 21823 | 2.3 | 177.75 | 0.9 |
| | E5 | 16 | 3432 | 0.4 | 166.95 | 0.8 |
| | E5C | 19 | 5592 | 0.6 | 95.27 | 0.5 |
| | E6 | 25 | 1820 | 0.2 | 196.36 | 1.0 |
| | E6A | 40 | 47573 | 5.0 | 322.54 | 1.6 |
| | E6B | 39 | 38324 | 4.1 | 284.09 | 1.4 |
| | E6C | 16 | 3620 | 0.4 | 83.71 | 0.4 |
| | E7 | 27 | 2258 | 0.2 | 218.23 | 1.1 |
| | E8 | 27 | 81042 | 8.6 | 190.00 | 0.9 |
| | E8AE* | 27 | 13954 | 1.5 | 131.62 | 0.7 |
| | E8AW* | 23 | 983 | 0.1 | 122.27 | 0.6 |
| | E8XN | 10 | 119 | 0.0 | 9.88 | 0.1 |
| | E8XS* | 13 | 9021 | 1.0 | 32.42 | 0.2 |
| | E9* | 36 | 21558 | 2.3 | 380.92 | 1.9 |
| | **Subtotal** | **63** | **363938** | **38.4** | **4609.04** | **22.6** |

Table 1. Waterbird species richness, abundance (total sightings for all species combined), and acreage by pond complex and individual pond, Don Edwards San Francisco Bay National Wildlife Refuge, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. Ponds marked with a '*' symbol are tidal.

| Complex | Pond | Species Richness | Abundance (Total Sightings) | Percent of Total Sightings in Survey Area | Acreage | Percent of Total Acreage in Survey Area |
|---|---|---|---|---|---|---|
| Mowry | M1 | 27 | 11220 | 1.2 | 498.65 | 2.5 |
| | M2 | 17 | 2149 | 0.2 | 487.22 | 2.4 |
| | M3 | 16 | 13903 | 1.5 | 550.69 | 2.7 |
| | M4 | 17 | 21700 | 2.3 | 537.55 | 2.6 |
| | M5 | 16 | 26517 | 2.8 | 417.79 | 2.1 |
| | M6 | 15 | 4508 | 0.5 | 448.70 | 2.2 |
| | **Subtotal** | **39** | **79997** | **8.5** | **2940.60** | **14.4** |
| Ravenswood | R1 | 27 | 17067 | 1.8 | 452.50 | 2.2 |
| | R2 | 15 | 6337 | 0.7 | 143.27 | 0.7 |
| | R3 | 19 | 5039 | 0.5 | 284.06 | 1.4 |
| | R4 | 8 | 184 | 0.0 | 299.84 | 1.5 |
| | R5 | 4 | 206 | 0.0 | 31.36 | 0.2 |
| | R5S | 7 | 828 | 0.1 | 30.48 | 0.2 |
| | RSF2U1 | 27 | 1040 | 0.1 | 56.76 | 0.3 |
| | RSF2U2 | 32 | 11133 | 1.2 | 84.20 | 0.4 |
| | RSF2U3 | 5 | 14 | 0.0 | 90.05 | 0.4 |
| | RSF2U4 | 14 | 278 | 0.0 | 15.47 | 0.1 |
| | **Subtotal** | **50** | **42126** | **4.5** | **1487.99** | **7.3** |
| **Survey Area Total** | | **75** | **946728** | **100.0** | **20357.33** | **100.0** |

Table 2. Percentage of total birds foraging, roosting, and using islands, levees, or manmade structures (e.g., blinds, fence posts) in each pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. N is the total number of bird sightings during the study period.

| Complex | Pond | % Foraging | % Roosting | % Island | % Levee | % Manmade | N |
|---|---|---|---|---|---|---|---|
| Alviso | A1 | 7.7 | 81.4 | 6.9 | 1.3 | 2.8 | 11279 |
| | A10 | 4.2 | 31.0 | 0.0 | 64.8 | 0.0 | 15087 |
| | A11 | 4.2 | 36.1 | 0.0 | 59.7 | 0.1 | 11722 |
| | A12 | 51.1 | 27.9 | 18.2 | 2.8 | 0.0 | 35855 |
| | A13 | 79.7 | 14.3 | 5.0 | 1.0 | 0.0 | 7622 |
| | A14 | 16.1 | 30.2 | 0.0 | 53.7 | 0.0 | 33038 |
| | A15 | 57.7 | 39.6 | 0.0 | 2.3 | 0.4 | 6159 |
| | A16 | 41.6 | 29.8 | 23.6 | 4.1 | 0.9 | 12783 |
| | A17 | 7.2 | 44.6 | 26.1 | 21.8 | 0.2 | 5039 |
| | A19 | 75.7 | 23.5 | 0.7 | 0.1 | 0.0 | 9444 |
| | A22 | 23.6 | 31.3 | 45.0 | 0.1 | 0.0 | 16847 |
| | A23 | 3.3 | 95.5 | 1.2 | 0.0 | 0.0 | 16456 |
| | A2E | 17.9 | 78.1 | 0.0 | 0.6 | 3.4 | 7200 |
| | A2W | 3.8 | 89.1 | 1.6 | 0.4 | 5.1 | 18631 |
| | A3N | 19.4 | 52.8 | 24.1 | 3.6 | 0.1 | 10784 |
| | A3W | 31.7 | 60.5 | 0.0 | 0.7 | 7.0 | 9456 |
| | A5 | 9.8 | 67.6 | 1.1 | 21.1 | 0.3 | 15869 |
| | A6S | 72.0 | 15.1 | 10.9 | 1.9 | 0.1 | 9627 |
| | A7 | 6.1 | 56.6 | 0.4 | 36.9 | 0.1 | 7096 |
| | A8 | 11.6 | 86.6 | 1.4 | 0.2 | 0.2 | 3683 |
| | A8S | 13.5 | 82.5 | 2.3 | 1.0 | 0.7 | 979 |
| | A8W | 31.5 | 31.5 | 32.0 | 2.0 | 3.0 | 203 |
| | A9 | 20.9 | 66.3 | 1.0 | 11.7 | 0.0 | 89929 |
| | AB1 | 28.1 | 68.1 | 2.2 | 0.4 | 1.2 | 3579 |
| | AB2 | 12.1 | 73.9 | 11.9 | 1.4 | 0.8 | 6909 |
| Coyote Hills | N1A | 22.3 | 54.9 | 0.0 | 22.4 | 0.4 | 4647 |
| | N2A | 6.0 | 18.0 | 0.0 | 76.0 | 0.1 | 7517 |
| | N3A | 14.5 | 38.2 | 0.0 | 47.0 | 0.3 | 21275 |
| | N4 | 7.3 | 1.6 | 0.0 | 90.6 | 0.6 | 3090 |
| | N4AA | 22.6 | 21.6 | 0.5 | 54.3 | 1.0 | 3801 |
| | N4AB | 15.2 | 13.3 | 9.4 | 61.9 | 0.3 | 7495 |
| | N4B | 49.1 | 8.4 | 0.0 | 37.8 | 4.8 | 524 |
| | N5 | 5.9 | 1.9 | 1.3 | 79.6 | 11.3 | 1283 |
| | N6 | 1.7 | 0.0 | 0.0 | 98.2 | 0.1 | 6778 |
| | N7 | 5.2 | 1.1 | 0.0 | 93.6 | 0.1 | 4415 |
| | N8 | 10.3 | 18.5 | 0.0 | 71.2 | 0.1 | 2330 |
| | N9 | 16.2 | 1.7 | 0.4 | 81.5 | 0.2 | 4004 |

Table 2. Percentage of total birds foraging, roosting, and using islands, levees, or manmade structures (e.g., blinds, fence posts) in each pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. N is the total number of bird sightings during the study period.

| Complex | Pond | % Foraging | % Roosting | % Island | % Levee | % Manmade | N |
|---|---|---|---|---|---|---|---|
| Dumbarton | N1 | 17.1 | 8.4 | 66.8 | 0.9 | 6.8 | 11225 |
| | N2 | 33.8 | 21.7 | 1.3 | 43.2 | 0.0 | 2937 |
| | N3 | 34.1 | 45.9 | 9.5 | 8.2 | 2.3 | 2909 |
| | NPP1 | 33.8 | 49.6 | 15.8 | 0.7 | 0.1 | 11161 |
| Eden Landing | E1 | 7.6 | 81.1 | 6.0 | 5.2 | 0.1 | 9098 |
| | E10 | 13.9 | 55.1 | 12.6 | 15.0 | 3.4 | 1917 |
| | E11 | 74.3 | 25.5 | 0.0 | 0.1 | 0.1 | 15862 |
| | E12 | 6.2 | 41.0 | 52.4 | 0.3 | 0.2 | 37625 |
| | E13 | 23.5 | 30.1 | 45.3 | 0.1 | 1.0 | 22158 |
| | E14 | 45.0 | 47.4 | 0.2 | 0.2 | 7.3 | 4505 |
| | E1C | 75.8 | 24.0 | 0.2 | 0.0 | 0.0 | 8192 |
| | E2 | 15.9 | 22.2 | 58.4 | 2.9 | 0.7 | 3931 |
| | E2C | 92.9 | 1.9 | 4.4 | 0.8 | 0.0 | 2148 |
| | E3C | 24.6 | 56.6 | 11.6 | 1.1 | 6.1 | 5815 |
| | E4 | 43.4 | 52.4 | 1.2 | 0.6 | 2.4 | 1568 |
| | E4C | 14.1 | 13.3 | 27.6 | 10.3 | 34.8 | 21823 |
| | E5 | 83.2 | 9.9 | 0.3 | 0.2 | 6.4 | 3432 |
| | E5C | 82.7 | 12.9 | 2.2 | 2.2 | 0.0 | 5592 |
| | E6 | 40.1 | 38.0 | 7.6 | 8.4 | 5.9 | 1820 |
| | E6A | 21.8 | 62.2 | 14.8 | 1.1 | 0.1 | 47573 |
| | E6B | 32.4 | 53.7 | 13.8 | 0.1 | 0.1 | 38324 |
| | E6C | 74.8 | 24.7 | 0.2 | 0.3 | 0.0 | 3620 |
| | E7 | 26.9 | 16.7 | 2.7 | 1.2 | 52.5 | 2258 |
| | E8 | 4.1 | 89.5 | 6.3 | 0.0 | 0.1 | 81042 |
| | E8AE | 16.5 | 36.6 | 46.9 | 0.0 | 0.0 | 13954 |
| | E8AW | 37.3 | 47.5 | 8.0 | 7.1 | 0.0 | 983 |
| | E8XN | 91.6 | 4.2 | 0.0 | 3.4 | 0.8 | 119 |
| | E8XS | 77.5 | 22.5 | 0.0 | 0.0 | 0.0 | 9021 |
| | E9 | 20.5 | 56.4 | 13.4 | 8.6 | 1.1 | 21558 |

Table 2. Percentage of total birds foraging, roosting, and using islands, levees, or manmade structures (e.g., blinds, fence posts) in each pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. N is the total number of bird sightings during the study period.

| Complex | Pond | % Foraging | % Roosting | % Island | % Levee | % Manmade | N |
|---|---|---|---|---|---|---|---|
| Mowry | M1 | 15.5 | 55.4 | 5.0 | 23.7 | 0.5 | 11220 |
| | M2 | 4.2 | 0.8 | 59.2 | 35.6 | 0.1 | 2149 |
| | M3 | 33.8 | 28.3 | 27.9 | 9.8 | 0.2 | 13903 |
| | M4 | 21.5 | 48.4 | 0.7 | 29.4 | 0.0 | 21700 |
| | M5 | 57.7 | 21.1 | 7.1 | 14.1 | 0.1 | 26517 |
| | M6 | 70.0 | 25.7 | 3.5 | 0.2 | 0.6 | 4508 |
| Ravenswood | R1 | 39.0 | 54.7 | 5.2 | 0.1 | 1.1 | 17067 |
| | R2 | 47.0 | 39.1 | 13.8 | 0.1 | 0.0 | 6337 |
| | R3 | 50.6 | 6.3 | 42.7 | 0.4 | 0.0 | 5039 |
| | R4 | 10.9 | 71.2 | 17.4 | 0.5 | 0.0 | 184 |
| | R5 | 40.3 | 58.7 | 1.0 | 0.0 | 0.0 | 206 |
| | R5S | 9.4 | 90.1 | 0.0 | 0.5 | 0.0 | 828 |
| | RSF2U1 | 22.1 | 30.2 | 28.9 | 10.1 | 8.8 | 1040 |
| | RSF2U2 | 4.3 | 41.1 | 54.2 | 0.4 | 0.1 | 11133 |
| | RSF2U3 | 57.1 | 14.3 | 0.0 | 28.6 | 0.0 | 14 |
| | RSF2U4 | 9.4 | 86.3 | 0.0 | 4.3 | 0.0 | 278 |

Table 3. The monthly average salinity (ppt) by pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. A '.' symbol indicates no data.

| Complex | Pond | Fall | Winter | Spring | Summer |
|---|---|---|---|---|---|
| Alviso | A1 | . | 26.23 | 25.87 | 33.58 |
| | A10 | . | 27.67 | 28.23 | 34.51 |
| | A11 | . | 28.62 | 29.32 | 40.02 |
| | A12 | . | 126.75 | 95.46 | 150.75 |
| | A13 | . | . | 118.17 | 192.00 |
| | A14 | . | 29.18 | 36.47 | 46.68 |
| | A15 | . | 125.70 | 127.50 | 178.25 |
| | A16 | . | 18.09 | 17.46 | 23.62 |
| | A17 | . | 14.18 | 13.93 | 20.84 |
| | A19 | . | 10.13 | 9.63 | 21.27 |
| | A22 | . | 290.00 | 177.50 | . |
| | A23 | . | . | 282.00 | . |
| | A2E | . | 24.04 | 23.72 | 33.06 |
| | A2W | . | 26.94 | 26.81 | 37.35 |
| | A3N | . | 60.22 | 53.32 | 66.60 |
| | A3W | . | 22.44 | 24.15 | 33.92 |
| | A5 | . | 24.05 | 19.89 | 24.84 |
| | A6S | . | . | 21.61 | 29.57 |
| | A7 | . | . | 22.89 | 26.30 |
| | A8 | . | 22.25 | 15.83 | 23.17 |
| | A8S | . | 23.41 | 17.07 | 21.54 |
| | A8W | . | . | . | . |
| | A9 | . | 26.63 | 26.99 | 38.48 |
| | AB1 | . | 23.57 | 23.44 | 31.18 |
| | AB2 | . | 23.14 | 23.19 | 34.00 |
| Coyote Hills | N1A | 33.28 | 36.20 | 34.08 | 39.76 |
| | N2A | 34.88 | 37.05 | 35.71 | 40.89 |
| | N3A | 39.91 | 40.31 | 50.12 | 43.84 |
| | N4 | 57.99 | 60.97 | 64.36 | 64.43 |
| | N4AA | 40.97 | 42.29 | 51.37 | 47.76 |
| | N4AB | 36.13 | 38.27 | 40.18 | 41.85 |
| | N4B | 43.84 | 50.14 | 52.64 | 52.96 |
| | N5 | 52.94 | 60.33 | 62.91 | 61.89 |
| | N6 | 47.91 | 55.04 | 60.96 | 52.41 |
| | N7 | 50.13 | 55.53 | 58.81 | 55.37 |
| | N8 | 48.28 | 52.18 | 56.03 | 52.48 |
| | N9 | 44.63 | 52.06 | 56.28 | 50.19 |

Table 3. The monthly average salinity (ppt) by pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. A '.' symbol indicates no data.

| Complex | Pond | Fall | Winter | Spring | Summer |
|---|---|---|---|---|---|
| Dumbarton | N1 | 95.70 | 95.35 | 118.70 | 109.00 |
| | N2 | 74.45 | 82.30 | 96.03 | 92.70 |
| | N3 | 66.06 | 77.40 | 87.08 | 78.97 |
| | NPP1 | 105.30 | 111.00 | 134.50 | 131.00 |
| Eden Landing | E1 | . | 32.05 | 32.56 | 37.87 |
| | E10 | . | 32.21 | 32.33 | 39.36 |
| | E11 | . | 36.74 | 30.85 | 41.09 |
| | E12 | . | 41.25 | 45.66 | 58.36 |
| | E13 | . | 49.82 | 49.06 | 78.48 |
| | E14 | . | 33.09 | 43.56 | 50.56 |
| | E1C | . | 92.15 | 112.62 | 58.60 |
| | E2 | . | 39.69 | 50.37 | 52.47 |
| | E2C | . | 31.65 | 34.88 | 42.44 |
| | E3C | . | 53.74 | 48.79 | 50.45 |
| | E4 | . | 41.33 | 62.06 | 68.08 |
| | E4C | . | 97.90 | 66.45 | . |
| | E5 | . | 65.03 | 59.36 | 92.07 |
| | E5C | . | 58.55 | 49.55 | 46.43 |
| | E6 | . | 55.53 | 56.44 | 106.13 |
| | E6A | . | 38.07 | 35.10 | 42.47 |
| | E6B | . | 32.95 | 32.16 | 40.65 |
| | E6C | . | 79.20 | 106.10 | 273.50 |
| | E7 | . | 40.11 | 38.88 | 67.35 |
| | E8 | . | 35.77 | 35.46 | 42.92 |
| | E8AE | . | . | . | . |
| | E8AW | . | . | . | . |
| | E8XN | . | 28.78 | 27.86 | 39.62 |
| | E8XS | . | 28.55 | 27.84 | 38.24 |
| | E9 | . | 39.20 | 33.88 | 35.41 |

Table 3. The monthly average salinity (ppt) by pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. A '.' symbol indicates no data.

| Complex | Pond | Fall | Winter | Spring | Summer |
|---|---|---|---|---|---|
| Mowry | M1 | . | 53.14 | 43.76 | 42.56 |
| | M2 | . | 54.31 | 56.86 | 52.41 |
| | M3 | . | 124.00 | 125.00 | 114.00 |
| | M4 | 142.00 | 140.00 | 155.17 | 132.00 |
| | M5 | 184.00 | 177.00 | 189.67 | 159.67 |
| | M6 | 194.50 | 184.67 | 193.00 | 182.67 |
| Ravenswood | R1 | . | 90.08 | 104.65 | 184.50 |
| | R2 | . | 121.00 | 174.83 | 297.00 |
| | R3 | . | 151.75 | 177.29 | 316.75 |
| | R4 | . | 293.50 | 231.13 | . |
| | R5 | . | 218.50 | 232.00 | . |
| | R5S | . | 164.50 | 219.75 | . |
| | RSF2U1 | . | 29.68 | 28.38 | 35.64 |
| | RSF2U2 | . | 29.16 | 28.48 | 34.70 |
| | RSF2U3 | . | 237.50 | 180.85 | 117.00 |
| | RSF2U4 | . | 28.70 | 29.54 | 34.38 |

Table 4. The monthly average temperature (degrees Celsius) by pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. A '.' symbol indicates no data.

| Complex | Pond | Fall | Winter | Spring | Summer |
|---|---|---|---|---|---|
| Alviso | A1 | . | 16.50 | 21.17 | 28.10 |
| | A10 | . | 16.42 | 23.25 | 25.93 |
| | A11 | . | 16.53 | 22.87 | 26.29 |
| | A12 | . | 17.48 | 23.66 | 25.42 |
| | A13 | . | 15.74 | 24.13 | 25.23 |
| | A14 | . | 18.57 | 17.24 | 24.37 |
| | A15 | . | 19.38 | 17.53 | 26.48 |
| | A16 | . | 11.86 | 20.63 | 26.11 |
| | A17 | . | 16.91 | 23.56 | 26.52 |
| | A19 | . | 14.45 | 18.93 | 27.27 |
| | A22 | . | 17.76 | 20.03 | 30.77 |
| | A23 | . | . | 22.33 | . |
| | A2E | . | 16.33 | 18.19 | 24.00 |
| | A2W | . | 17.75 | 21.80 | 27.48 |
| | A3N | . | 16.64 | 21.71 | 25.81 |
| | A3W | . | 15.79 | 16.63 | 25.70 |
| | A5 | . | 16.48 | 19.40 | 25.01 |
| | A6S | . | . | 16.44 | 25.04 |
| | A7 | . | . | 19.52 | 25.56 |
| | A8 | . | 14.96 | 20.10 | 24.32 |
| | A8S | . | 14.49 | 20.33 | 24.31 |
| | A8W | . | . | . | . |
| | A9 | . | 18.24 | 18.29 | 28.03 |
| | AB1 | . | 16.55 | 17.64 | 23.35 |
| | AB2 | . | 15.68 | 20.61 | 25.53 |
| Coyote Hills | N1A | 17.89 | 10.96 | 16.20 | 24.03 |
| | N2A | 18.10 | 15.43 | 23.12 | 26.89 |
| | N3A | 19.21 | 11.93 | 16.99 | 23.65 |
| | N4 | 20.01 | 16.22 | 23.00 | 26.62 |
| | N4AA | 19.61 | 15.85 | 15.31 | 28.17 |
| | N4AB | 19.35 | 16.89 | 24.21 | 27.85 |
| | N4B | 19.83 | 16.60 | 21.29 | 27.60 |
| | N5 | 19.34 | 15.33 | 21.12 | 25.74 |
| | N6 | 20.90 | 17.15 | 22.06 | 25.60 |
| | N7 | 19.59 | 13.08 | 19.19 | 26.00 |
| | N8 | 19.61 | 15.85 | 17.49 | 26.79 |
| | N9 | 20.21 | 14.30 | 22.46 | 27.19 |

Table 4. The monthly average temperature (degrees Celsius) by pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. A '.' symbol indicates no data.

| Complex | Pond | Fall | Winter | Spring | Summer |
|---|---|---|---|---|---|
| Dumbarton | N1 | 20.88 | 16.09 | 23.42 | 25.22 |
| | N2 | 21.03 | 15.74 | 23.79 | 26.46 |
| | N3 | 21.19 | 14.90 | 22.95 | 26.03 |
| | NPP1 | 21.25 | 16.85 | 23.43 | 25.90 |
| Eden Landing | E1 | . | 17.65 | 22.44 | 26.37 |
| | E10 | . | 13.61 | 23.30 | 20.25 |
| | E11 | . | 13.56 | 17.56 | 18.78 |
| | E12 | . | 17.29 | 21.33 | 25.23 |
| | E13 | . | 15.42 | 22.55 | 29.06 |
| | E14 | . | 14.45 | 21.93 | 19.20 |
| | E1C | . | 17.29 | 23.51 | 28.34 |
| | E2 | . | 19.03 | 19.28 | 26.99 |
| | E2C | . | 15.68 | 23.80 | 27.26 |
| | E3C | . | 16.73 | 22.56 | 26.41 |
| | E4 | . | 19.73 | 17.93 | 27.42 |
| | E4C | . | 17.84 | 24.66 | . |
| | E5 | . | 17.81 | 20.93 | 25.91 |
| | E5C | . | 17.49 | 22.29 | 27.28 |
| | E6 | . | 14.11 | 20.88 | 27.26 |
| | E6A | . | 14.92 | 19.98 | 29.63 |
| | E6B | . | 19.20 | 21.57 | 27.12 |
| | E6C | . | 18.27 | 21.26 | 26.75 |
| | E7 | . | 13.53 | 24.39 | 26.93 |
| | E8 | . | 18.31 | 23.08 | 27.26 |
| | E8AE | . | . | . | . |
| | E8AW | . | . | . | . |
| | E8XN | . | 16.11 | 21.94 | 20.98 |
| | E8XS | . | 18.15 | 21.62 | 20.72 |
| | E9 | . | 15.69 | 21.01 | 25.29 |

Table 4. The monthly average temperature (degrees Celsius) by pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. A '.' symbol indicates no data.

| Complex | Pond | Fall | Winter | Spring | Summer |
|---|---|---|---|---|---|
| Mowry | M1 | . | 13.49 | 23.39 | 20.94 |
| | M2 | . | 14.95 | 22.20 | 23.46 |
| | M3 | . | 15.34 | 21.22 | 26.48 |
| | M4 | 19.98 | 17.15 | 20.56 | 28.15 |
| | M5 | 20.47 | 17.49 | 22.75 | 28.53 |
| | M6 | 20.97 | 16.91 | 22.17 | 28.54 |
| Ravenswood | R1 | . | 15.16 | 21.54 | 23.93 |
| | R2 | . | 17.07 | 18.80 | 25.67 |
| | R3 | . | 18.29 | 21.18 | 26.85 |
| | R4 | . | 17.38 | 23.29 | 29.00 |
| | R5 | . | 16.39 | 24.61 | 31.97 |
| | R5S | . | 13.89 | 24.38 | 31.64 |
| | RSF2U1 | . | 13.14 | 19.11 | 30.28 |
| | RSF2U2 | . | 12.87 | 18.24 | 28.23 |
| | RSF2U3 | . | 14.57 | 19.66 | 29.02 |
| | RSF2U4 | . | 14.02 | 18.92 | 28.82 |

Table 5. The monthly average dissolved oxygen (mg/L) by pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. A '.' symbol indicates no data.

| Complex | Pond | Fall | Winter | Spring | Summer |
|---|---|---|---|---|---|
| Alviso | A1 | . | 9.47 | 6.80 | 9.29 |
| | A10 | . | 9.17 | 7.66 | 9.83 |
| | A11 | . | 8.39 | 6.10 | 6.51 |
| | A12 | . | 8.14 | 4.65 | 16.43 |
| | A13 | . | 5.84 | 4.74 | 3.37 |
| | A14 | . | 4.90 | 5.10 | 8.53 |
| | A15 | . | 8.68 | 5.27 | 4.16 |
| | A16 | . | 12.80 | 10.69 | 6.05 |
| | A17 | . | 11.13 | 8.24 | 6.29 |
| | A19 | . | 7.01 | 6.60 | 5.75 |
| | A22 | . | 5.87 | 2.75 | 4.29 |
| | A23 | . | . | 6.06 | . |
| | A2E | . | 13.60 | 10.32 | 5.80 |
| | A2W | . | 7.44 | 7.48 | 5.60 |
| | A3N | . | 11.60 | 10.02 | 7.61 |
| | A3W | . | 8.99 | 8.03 | 7.71 |
| | A5 | . | 8.64 | 7.30 | 9.56 |
| | A6S | . | . | 5.73 | 5.72 |
| | A7 | . | . | 7.43 | 7.97 |
| | A8 | . | 9.49 | 9.77 | 5.66 |
| | A8S | . | 10.72 | 6.93 | 7.58 |
| | A8W | . | . | . | . |
| | A9 | . | 11.69 | 9.49 | 15.26 |
| | AB1 | . | 13.71 | 9.25 | 4.25 |
| | AB2 | . | 11.91 | 8.84 | 6.94 |
| Coyote Hills | N1A | 5.58 | 6.84 | 9.37 | 7.60 |
| | N2A | 3.83 | 7.27 | 10.58 | 8.72 |
| | N3A | 4.49 | 5.94 | 3.53 | 4.86 |
| | N4 | 4.32 | 8.41 | 7.38 | 7.48 |
| | N4AA | 3.18 | 14.21 | 5.57 | 3.86 |
| | N4AB | 4.47 | 9.36 | 9.28 | 8.67 |
| | N4B | 5.22 | 11.45 | 10.18 | 5.08 |
| | N5 | 5.49 | 9.49 | 6.94 | 7.54 |
| | N6 | 1.94 | 11.73 | 7.72 | 0.75 |
| | N7 | 5.24 | 9.26 | 6.96 | 5.84 |
| | N8 | 3.15 | 9.88 | 6.64 | 4.82 |
| | N9 | 4.54 | 10.30 | 7.49 | 4.55 |

Table 5. The monthly average dissolved oxygen (mg/L) by pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. A '.' symbol indicates no data.

| Complex | Pond | Fall | Winter | Spring | Summer |
|---|---|---|---|---|---|
| Dumbarton | N1 | 4.79 | 7.47 | 5.75 | 5.57 |
| | N2 | 5.77 | 9.29 | 6.10 | 6.75 |
| | N3 | 5.78 | 9.57 | 5.37 | 6.53 |
| | NPP1 | 4.37 | 9.50 | 6.26 | 6.09 |
| Eden Landing | E1 | . | 8.60 | 8.57 | 7.93 |
| | E10 | . | 8.47 | 8.09 | 5.26 |
| | E11 | . | 7.89 | 10.57 | 7.34 |
| | E12 | . | 14.19 | 7.83 | 6.77 |
| | E13 | . | 9.60 | 10.62 | 10.73 |
| | E14 | . | 10.53 | 11.59 | 3.20 |
| | E1C | . | 4.83 | 8.10 | 9.57 |
| | E2 | . | 14.39 | 6.92 | 7.78 |
| | E2C | . | 9.30 | 12.27 | 9.75 |
| | E3C | . | 7.28 | 10.14 | 8.35 |
| | E4 | . | 10.07 | 6.27 | 6.47 |
| | E4C | . | 5.01 | 5.96 | . |
| | E5 | . | 7.29 | 7.01 | 8.46 |
| | E5C | . | 7.98 | 11.99 | 10.80 |
| | E6 | . | 7.93 | 7.36 | 7.57 |
| | E6A | . | 8.44 | 8.57 | 10.56 |
| | E6B | . | 14.61 | 8.82 | 8.56 |
| | E6C | . | 7.24 | 7.27 | 5.47 |
| | E7 | . | 10.16 | 11.32 | 10.62 |
| | E8 | . | 11.40 | 12.00 | 12.96 |
| | E8AE | . | . | . | . |
| | E8AW | . | . | . | . |
| | E8XN | . | 9.00 | 8.73 | 4.52 |
| | E8XS | . | 8.57 | 8.02 | 4.43 |
| | E9 | . | 9.53 | 8.08 | 8.60 |

Table 5. The monthly average dissolved oxygen (mg/L) by pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. A '.' symbol indicates no data.

| Complex | Pond | Fall | Winter | Spring | Summer |
|---|---|---|---|---|---|
| Mowry | M1 | . | 4.72 | 11.94 | 10.71 |
| | M2 | . | 6.33 | 8.96 | 6.18 |
| | M3 | . | 7.11 | 4.86 | 3.89 |
| | M4 | 5.62 | 8.28 | 3.78 | 6.63 |
| | M5 | 3.91 | 4.77 | 5.16 | 5.53 |
| | M6 | 3.95 | 5.24 | 5.58 | 4.04 |
| Ravenswood | R1 | . | 6.24 | 6.45 | 4.33 |
| | R2 | . | 6.33 | 5.13 | 9.59 |
| | R3 | . | 4.22 | 5.32 | 8.09 |
| | R4 | . | 7.46 | 5.12 | 3.96 |
| | R5 | . | 6.79 | 4.21 | 3.28 |
| | R5S | . | 7.40 | 4.21 | 1.76 |
| | RSF2U1 | . | 10.15 | 10.45 | 9.95 |
| | RSF2U2 | . | 11.00 | 9.22 | 10.16 |
| | RSF2U3 | . | 7.65 | 5.42 | 4.51 |
| | RSF2U4 | . | 10.77 | 8.06 | 7.71 |

Table 6. The monthly average pH by pond, California; Sept. 2013, Jan.-Aug. 2014. A '.' symbol indicates no data.

| Complex | Pond | Fall | Winter | Spring | Summer |
|---|---|---|---|---|---|
| Alviso | A1 | . | 8.29 | 8.24 | 8.13 |
| | A10 | . | 8.08 | 7.97 | 8.12 |
| | A11 | . | 8.06 | 7.99 | 8.05 |
| | A12 | . | 8.23 | 8.14 | 7.57 |
| | A13 | . | 7.91 | 8.08 | 7.57 |
| | A14 | . | 7.84 | 8.34 | 8.41 |
| | A15 | . | 8.03 | 8.32 | 7.77 |
| | A16 | . | 8.31 | 8.65 | 7.91 |
| | A17 | . | 8.11 | 7.89 | 7.66 |
| | A19 | . | 7.65 | 7.78 | 7.64 |
| | A22 | . | 7.22 | 7.50 | 6.15 |
| | A23 | . | . | 7.89 | . |
| | A2E | . | 8.68 | 8.43 | 7.82 |
| | A2W | . | 8.23 | 8.22 | 8.23 |
| | A3N | . | 8.96 | 9.20 | 8.70 |
| | A3W | . | 8.42 | 8.45 | 8.23 |
| | A5 | . | 7.91 | 8.50 | 8.40 |
| | A6S | . | . | 7.67 | 7.52 |
| | A7 | . | . | 8.35 | 8.20 |
| | A8 | . | 8.45 | 8.46 | 8.16 |
| | A8S | . | 8.47 | 8.60 | 8.47 |
| | A8W | . | . | . | . |
| | A9 | . | 8.47 | 7.96 | 8.33 |
| | AB1 | . | 8.39 | 8.21 | 7.62 |
| | AB2 | . | 8.36 | 8.59 | 8.48 |
| Coyote Hills | N1A | 7.92 | 7.87 | 8.11 | 8.50 |
| | N2A | 7.87 | 7.88 | 8.37 | 8.17 |
| | N3A | 8.30 | 7.81 | 8.47 | 8.21 |
| | N4 | 8.54 | 8.42 | 8.48 | 8.77 |
| | N4AA | 8.31 | 8.26 | 8.48 | 8.09 |
| | N4AB | 8.07 | 8.11 | 8.40 | 8.22 |
| | N4B | 8.34 | 8.57 | 8.52 | 8.26 |
| | N5 | 8.59 | 8.43 | 8.50 | 8.72 |
| | N6 | 8.03 | 8.47 | 8.65 | 7.77 |
| | N7 | 8.43 | 8.36 | 8.43 | 8.49 |
| | N8 | 8.26 | 8.41 | 8.40 | 8.36 |
| | N9 | 8.24 | 8.42 | 8.60 | 8.23 |

Table 6. The monthly average pH by pond, California; Sept. 2013, Jan.-Aug. 2014. A '.' symbol indicates no data.

| Complex | Pond | Fall | Winter | Spring | Summer |
|---|---|---|---|---|---|
| Dumbarton | N1 | 8.36 | 8.45 | 8.14 | 8.37 |
| | N2 | 8.76 | 8.67 | 8.30 | 8.41 |
| | N3 | 8.74 | 8.69 | 8.29 | 8.54 |
| | NPP1 | 8.17 | 8.58 | 8.16 | 8.19 |
| Eden Landing | E1 | . | 8.05 | 8.19 | 8.13 |
| | E10 | . | 8.11 | 8.18 | 7.82 |
| | E11 | . | 8.52 | 8.26 | 8.07 |
| | E12 | . | 8.78 | 8.59 | 8.08 |
| | E13 | . | 8.69 | 8.91 | 8.51 |
| | E14 | . | 8.41 | 8.74 | 7.71 |
| | E1C | . | 7.93 | 8.20 | 7.98 |
| | E2 | . | 9.12 | 8.45 | 8.50 |
| | E2C | . | 8.46 | 8.61 | 8.52 |
| | E3C | . | 8.58 | 9.08 | 8.75 |
| | E4 | . | 8.88 | 8.67 | 8.29 |
| | E4C | . | 7.84 | 8.23 | . |
| | E5 | . | 8.47 | 8.75 | 8.58 |
| | E5C | . | 8.39 | 8.81 | 8.60 |
| | E6 | . | 8.37 | 8.83 | 8.52 |
| | E6A | . | 8.22 | 8.44 | 8.40 |
| | E6B | . | 8.67 | 8.22 | 8.23 |
| | E6C | . | 8.43 | 8.28 | 7.33 |
| | E7 | . | 8.26 | 8.56 | 9.09 |
| | E8 | . | 8.73 | 8.56 | 8.67 |
| | E8AE | . | . | . | . |
| | E8AW | . | . | . | . |
| | E8XN | . | 7.88 | 8.09 | 7.77 |
| | E8XS | . | 7.93 | 8.08 | 7.75 |
| | E9 | . | 8.47 | 8.04 | 7.78 |

Table 6. The monthly average pH by pond, California; Sept. 2013, Jan.-Aug. 2014. A '.' symbol indicates no data.

| Complex | Pond | Fall | Winter | Spring | Summer |
|---|---|---|---|---|---|
| Mowry | M1 | . | 8.36 | 8.53 | 8.31 |
| | M2 | . | 8.38 | 8.57 | 8.31 |
| | M3 | . | 7.92 | 7.91 | 7.98 |
| | M4 | 8.08 | 8.01 | 7.80 | 7.97 |
| | M5 | 7.87 | 7.81 | 7.68 | 7.82 |
| | M6 | 7.81 | 7.58 | 7.81 | 7.66 |
| Ravenswood | R1 | . | 8.26 | 8.21 | 7.30 |
| | R2 | . | 7.84 | 7.53 | 7.12 |
| | R3 | . | 7.74 | 7.42 | 6.89 |
| | R4 | . | 6.97 | 7.61 | 6.53 |
| | R5 | . | 7.30 | 7.38 | 5.94 |
| | R5S | . | 7.48 | 7.41 | 5.96 |
| | RSF2U1 | . | 8.00 | 8.01 | 8.47 |
| | RSF2U2 | . | 8.10 | 7.88 | 7.97 |
| | RSF2U3 | . | 7.52 | 7.56 | 7.86 |
| | RSF2U4 | . | 8.22 | 8.02 | 8.12 |

Table 7. The monthly average staff gauge height (feet) by pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. A '.' symbol indicates no data was collected. A '#' symbol indicates no staff gauge is present on the pond. A 'Dry' note indicates that the pond around the staff gauge was dry at the time of the survey.

| Complex | Pond | Fall | Winter | Spring | Summer |
|---|---|---|---|---|---|
| Alviso | A1 | . | . | 0.9 | 0.1 |
| | A10 | . | 1.5 | 1.0 | 1.0 |
| | A11 | . | 1.5 | 1.1 | 1.0 |
| | A12 | . | 1.6 | 0.7 | 1.8 |
| | A13 | . | 1.6 | 2.0 | 1.0 |
| | A14 | . | 1.2 | 1.0 | 0.9 |
| | A15 | . | 1.6 | 1.9 | 0.9 |
| | A16 | . | . | 4.0 | 4.0 |
| | A17 | . | 5.6 | 5.8 | 6.1 |
| | A19 | # | # | # | # |
| | A22 | # | # | # | # |
| | A23 | # | # | # | # |
| | A2E | . | 2.7 | 2.7 | 2.9 |
| | A2W | . | 0.2 | 0.2 | 0.0 |
| | A3N | . | 1.3 | 1.3 | 1.7 |
| | A3W | . | -1.5 | -0.4 | -1.2 |
| | A5 | . | . | 1.5 | 2.1 |
| | A6S | # | # | # | # |
| | A7 | . | . | 1.7 | 2.0 |
| | A8 | # | # | # | # |
| | A8S | # | # | # | # |
| | A8W | # | # | # | # |
| | A9 | . | 1.5 | 1.3 | 1.1 |
| | AB1 | . | 1.1 | 1.2 | 1.2 |
| | AB2 | . | 1.0 | 1.2 | 1.3 |
| Coyote Hills | N1A | 4.8 | 4.8 | 4.7 | 4.7 |
| | N2A | 1.8 | 1.9 | 1.6 | 1.8 |
| | N3A | 1.8 | 1.7 | 1.8 | 1.7 |
| | N4 | 1.8 | 1.8 | 1.7 | 2.1 |
| | N4AA | 1.0 | 1.3 | 1.1 | 0.9 |
| | N4AB | # | # | # | # |
| | N4B | # | # | # | # |
| | N5 | 1.6 | 1.5 | 1.3 | 1.8 |
| | N6 | 1.8 | 1.5 | 1.6 | 1.9 |
| | N7 | 1.2 | 1.1 | 1.3 | 1.5 |
| | N8 | 1.7 | 1.4 | 1.3 | 1.8 |
| | N9 | 1.6 | 1.2 | 1.1 | 1.7 |

Table 7. The monthly average staff gauge height (feet) by pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. A '.' symbol indicates no data was collected. A '#' symbol indicates no staff gauge is present on the pond. A 'Dry' note indicates that the pond around the staff gauge was dry at the time of the survey.

| Complex | Pond | Fall | Winter | Spring | Summer |
|---|---|---|---|---|---|
| Dumbarton | N1 | 1.3 | 1.4 | 1.3 | 1.0 |
| | N2 | 3.2 | 2.6 | 2.7 | 2.8 |
| | N3 | 3.2 | 2.9 | 1.8 | 3.2 |
| | NPP1 | 2.8 | 1.4 | 1.8 | 2.0 |
| Eden Landing | E1 | . | . | 3.9 | 4.0 |
| | E10 | . | . | 3.7 | 3.8 |
| | E11 | . | . | 0.8 | 0.3 |
| | E12 | . | . | 6.8 | 6.9 |
| | E13 | . | 0.4 | 5.6 | 5.3 |
| | E14 | . | 4.8 | 5.3 | 5.3 |
| | E1C | . | 4.1 | 4.1 | Dry |
| | E2 | . | 4.5 | 3.4 | 3.6 |
| | E2C | . | 4.2 | 3.7 | 3.4 |
| | E3C | . | 4.1 | 4.0 | 3.9 |
| | E4 | . | 4.0 | 3.6 | 4.3 |
| | E4C | # | # | # | # |
| | E5 | . | 4.5 | 4.1 | 4.1 |
| | E5C | . | 4.1 | 4.5 | Dry |
| | E6 | . | 4.3 | 3.9 | 3.7 |
| | E6A | . | 2.9 | 1.8 | 2.0 |
| | E6B | . | 2.3 | 1.5 | 1.7 |
| | E6C | . | 4.5 | 4.3 | Dry |
| | E7 | . | . | 4.0 | 3.8 |
| | E8 | . | 3.5 | 3.0 | 2.4 |
| | E8AE | # | # | # | # |
| | E8AW | # | # | # | # |
| | E8XN | . | 4.7 | 4.3 | 5.1 |
| | E8XS | . | 3.0 | 5.0 | 5.4 |
| | E9 | . | 4.7 | 5.8 | 5.5 |

Table 7. The monthly average staff gauge height (feet) by pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. A '.' symbol indicates no data was collected. A '#' symbol indicates no staff gauge is present on the pond. A 'Dry' note indicates that the pond around the staff gauge was dry at the time of the survey.

| Complex | Pond | Fall | Winter | Spring | Summer |
|---|---|---|---|---|---|
| Mowry | M1 | 1.9 | 2.0 | 2.4 | 2.0 |
| | M2 | # | # | # | # |
| | M3 | 2.0 | 2.0 | 2.2 | 2.0 |
| | M4 | 1.8 | 1.8 | 2.0 | 1.7 |
| | M5 | 1.8 | 1.9 | 1.7 | 2.5 |
| | M6 | 1.5 | 1.6 | 1.7 | 1.3 |
| Ravenswood | R1 | . | Dry | Dry | Dry |
| | R2 | . | 1.6 | 1.3 | Dry |
| | R3 | . | 0.0 | 0.1 | Dry |
| | R4 | . | Dry | Dry | Dry |
| | R5 | . | Dry | Dry | Dry |
| | R5S | # | # | # | # |
| | RSF2U1 | . | 5.7 | 5.5 | 5.5 |
| | RSF2U2 | . | 3.8 | 5.6 | 5.6 |
| | RSF2U3 | . | . | 4.2 | 4.5 |
| | RSF2U4 | . | 3.0 | 3.3 | 3.0 |

Table 8. Percentage of dabblers foraging, roosting, and using islands, levees, or manmade structures (e.g., blinds, fence posts) in each pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. N is the total number of dabbler sightings during the study period.

| Complex | Pond | % Foraging | % Roosting | % Island | % Levee | % Manmade | N |
|---|---|---|---|---|---|---|---|
| Alviso | A1 | 16.4 | 62.8 | 0.0 | 17.7 | 3.1 | 226 |
| | A10 | 4.2 | 90.3 | 0.0 | 1.4 | 4.2 | 72 |
| | A11 | 29.4 | 35.3 | 0.0 | 35.3 | 0.0 | 51 |
| | A12 | 60.8 | 24.7 | 9.0 | 5.6 | 0.0 | 5477 |
| | A13 | 0.0 | 100.0 | 0.0 | 0.0 | 0.0 | 4 |
| | A14 | 77.7 | 21.4 | 0.0 | 0.9 | 0.0 | 6078 |
| | A15 | 0.0 | 28.6 | 0.0 | 71.4 | 0.0 | 14 |
| | A16 | 61.2 | 24.2 | 13.9 | 0.6 | 0.2 | 6726 |
| | A17 | 5.5 | 50.1 | 22.5 | 21.8 | 0.0 | 4079 |
| | A19 | 73.1 | 24.8 | 2.2 | 0.0 | 0.0 | 2806 |
| | A22 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | A23 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | A2E | 41.6 | 55.8 | 0.1 | 2.0 | 0.5 | 1164 |
| | A2W | 27.9 | 60.7 | 7.7 | 2.0 | 1.7 | 1278 |
| | A3N | 87.5 | 12.5 | 0.0 | 0.0 | 0.0 | 16 |
| | A3W | 70.7 | 28.2 | 0.0 | 0.8 | 0.4 | 3165 |
| | A5 | 11.7 | 9.6 | 3.0 | 75.7 | 0.0 | 3142 |
| | A6S | 46.1 | 7.2 | 39.4 | 7.4 | 0.0 | 1314 |
| | A7 | 1.8 | 18.1 | 0.3 | 79.8 | 0.0 | 1456 |
| | A8 | 39.5 | 40.7 | 17.3 | 0.0 | 2.5 | 81 |
| | A8S | 12.5 | 37.5 | 16.7 | 29.2 | 4.2 | 24 |
| | A8W | 29.4 | 52.9 | 0.0 | 11.8 | 5.9 | 17 |
| | A9 | 44.5 | 55.4 | 0.1 | 0.0 | 0.1 | 19225 |
| | AB1 | 29.0 | 70.4 | 0.5 | 0.1 | 0.0 | 742 |
| | AB2 | 32.0 | 45.8 | 16.7 | 5.3 | 0.3 | 1393 |
| Coyote Hills | N1A | 34.3 | 17.1 | 0.0 | 48.6 | 0.0 | 35 |
| | N2A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | N3A | 7.1 | 86.8 | 0.0 | 6.1 | 0.0 | 7004 |
| | N4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | N4AA | 47.4 | 51.9 | 0.0 | 0.6 | 0.2 | 1359 |
| | N4AB | 75.1 | 24.9 | 0.0 | 0.0 | 0.0 | 502 |
| | N4B | 87.5 | 12.5 | 0.0 | 0.0 | 0.0 | 8 |
| | N5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | N6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | N7 | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 7 |
| | N8 | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2 |
| | N9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |

Table 8. Percentage of dabblers foraging, roosting, and using islands, levees, or manmade structures (e.g., blinds, fence posts) in each pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. N is the total number of dabbler sightings during the study period.

| Complex | Pond | % Foraging | % Roosting | % Island | % Levee | % Manmade | N |
|---|---|---|---|---|---|---|---|
| Dumbarton | N1 | 18.6 | 6.9 | 73.8 | 0.6 | 0.0 | 2206 |
| | N2 | 30.5 | 5.5 | 1.0 | 63.0 | 0.0 | 1875 |
| | N3 | 81.9 | 15.0 | 3.1 | 0.0 | 0.0 | 321 |
| | NPP1 | 59.6 | 26.6 | 13.2 | 0.6 | 0.0 | 789 |
| Eden Landing | E1 | 0.0 | 100.0 | 0.0 | 0.0 | 0.0 | 9 |
| | E10 | 0.0 | 100.0 | 0.0 | 0.0 | 0.0 | 16 |
| | E11 | 77.2 | 22.8 | 0.0 | 0.0 | 0.0 | 145 |
| | E12 | 36.1 | 45.9 | 18.0 | 0.0 | 0.0 | 316 |
| | E13 | 84.5 | 12.7 | 2.8 | 0.0 | 0.0 | 71 |
| | E14 | 71.4 | 24.5 | 4.1 | 0.0 | 0.0 | 49 |
| | E1C | 82.9 | 16.7 | 0.0 | 0.4 | 0.0 | 486 |
| | E2 | 69.3 | 29.9 | 0.8 | 0.0 | 0.0 | 127 |
| | E2C | 45.7 | 45.7 | 0.0 | 8.7 | 0.0 | 46 |
| | E3C | 62.2 | 28.4 | 2.1 | 7.4 | 0.0 | 381 |
| | E4 | 33.8 | 62.2 | 0.0 | 1.4 | 2.7 | 74 |
| | E4C | 52.5 | 26.9 | 13.9 | 6.7 | 0.0 | 2082 |
| | E5 | 45.5 | 36.4 | 0.0 | 18.2 | 0.0 | 11 |
| | E5C | 71.2 | 18.1 | 0.0 | 10.7 | 0.0 | 685 |
| | E6 | 88.1 | 6.6 | 3.6 | 0.6 | 1.2 | 168 |
| | E6A | 15.2 | 74.3 | 9.5 | 1.0 | 0.0 | 11489 |
| | E6B | 55.3 | 35.9 | 8.3 | 0.5 | 0.0 | 590 |
| | E6C | 52.1 | 29.2 | 0.0 | 18.8 | 0.0 | 48 |
| | E7 | 77.1 | 18.9 | 3.4 | 0.6 | 0.0 | 471 |
| | E8 | 68.5 | 31.5 | 0.0 | 0.0 | 0.0 | 89 |
| | E8AE | 2.4 | 97.6 | 0.0 | 0.0 | 0.0 | 168 |
| | E8AW | 11.2 | 9.4 | 39.4 | 40.0 | 0.0 | 170 |
| | E8XN | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4 |
| | E8XS | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 15 |
| | E9 | 35.9 | 63.0 | 0.9 | 0.2 | 0.0 | 828 |

Table 8. Percentage of dabblers foraging, roosting, and using islands, levees, or manmade structures (e.g., blinds, fence posts) in each pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. N is the total number of dabbler sightings during the study period.

| Complex | Pond | % Foraging | % Roosting | % Island | % Levee | % Manmade | N |
|---|---|---|---|---|---|---|---|
| Mowry | M1 | 12.9 | 3.8 | 83.3 | 0.0 | 0.0 | 504 |
| | M2 | 0.0 | 100.0 | 0.0 | 0.0 | 0.0 | 1 |
| | M3 | 35.0 | 65.0 | 0.0 | 0.0 | 0.0 | 20 |
| | M4 | 24.0 | 64.0 | 0.0 | 12.0 | 0.0 | 25 |
| | M5 | 86.4 | 12.7 | 0.9 | 0.0 | 0.0 | 1298 |
| | M6 | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 525 |
| Ravenswood | R1 | 0.0 | 100.0 | 0.0 | 0.0 | 0.0 | 1 |
| | R2 | 0.0 | 100.0 | 0.0 | 0.0 | 0.0 | 2 |
| | R3 | 0.0 | 100.0 | 0.0 | 0.0 | 0.0 | 2 |
| | R4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | R5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | R5S | 2.1 | 97.9 | 0.0 | 0.0 | 0.0 | 97 |
| | RSF2U1 | 19.1 | 30.9 | 44.9 | 5.2 | 0.0 | 136 |
| | RSF2U2 | 30.6 | 13.9 | 55.5 | 0.0 | 0.0 | 1009 |
| | RSF2U3 | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 5 |
| | RSF2U4 | 0.0 | 100.0 | 0.0 | 0.0 | 0.0 | 12 |

Table 9. Percentage of divers foraging, roosting, and using islands, levees, or manmade structures (e.g., blinds, fence posts) in each pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. N is the total number of diver sightings during the study period.

| Complex | Pond | % Foraging | % Roosting | % Island | % Levee | % Manmade | N |
|---|---|---|---|---|---|---|---|
| | A1 | 7.5 | 92.3 | 0.1 | 0.0 | 0.1 | 9480 |
| | A10 | 4.2 | 95.8 | 0.0 | 0.0 | 0.0 | 3581 |
| | A11 | 4.8 | 94.9 | 0.0 | 0.3 | 0.0 | 4139 |
| | A12 | 14.5 | 85.5 | 0.0 | 0.0 | 0.0 | 2929 |
| | A13 | 56.5 | 43.5 | 0.0 | 0.0 | 0.0 | 1226 |
| | A14 | 4.5 | 95.4 | 0.0 | 0.1 | 0.0 | 8867 |
| | A15 | 11.8 | 88.2 | 0.0 | 0.0 | 0.0 | 272 |
| | A16 | 7.8 | 91.6 | 0.6 | 0.0 | 0.0 | 1761 |
| | A17 | 41.1 | 57.9 | 0.4 | 0.7 | 0.0 | 280 |
| | A19 | 30.9 | 69.1 | 0.0 | 0.0 | 0.0 | 81 |
| | A22 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | A23 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| Alviso | A2E | 12.2 | 87.7 | 0.0 | 0.0 | 0.1 | 5534 |
| | A2W | 1.6 | 98.3 | 0.0 | 0.0 | 0.0 | 15922 |
| | A3N | 0.0 | 100.0 | 0.0 | 0.0 | 0.0 | 1 |
| | A3W | 9.5 | 90.5 | 0.0 | 0.0 | 0.0 | 5121 |
| | A5 | 7.6 | 91.7 | 0.0 | 0.7 | 0.0 | 11137 |
| | A6S | 62.5 | 35.1 | 2.4 | 0.0 | 0.0 | 2407 |
| | A7 | 8.0 | 90.5 | 0.0 | 1.5 | 0.0 | 3966 |
| | A8 | 9.1 | 90.6 | 0.2 | 0.0 | 0.1 | 3351 |
| | A8S | 6.5 | 93.5 | 0.0 | 0.0 | 0.0 | 756 |
| | A8W | 20.0 | 78.3 | 1.7 | 0.0 | 0.0 | 60 |
| | A9 | 16.7 | 83.2 | 0.0 | 0.0 | 0.0 | 8433 |
| | AB1 | 23.4 | 76.6 | 0.0 | 0.0 | 0.0 | 2443 |
| | AB2 | 6.2 | 93.8 | 0.0 | 0.0 | 0.0 | 4636 |

Table 9. Percentage of divers foraging, roosting, and using islands, levees, or manmade structures (e.g., blinds, fence posts) in each pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. N is the total number of diver sightings during the study period.

| Complex | Pond | % Foraging | % Roosting | % Island | % Levee | % Manmade | N |
|---|---|---|---|---|---|---|---|
| Coyote Hills | N1A | 17.4 | 82.7 | 0.0 | 0.0 | 0.0 | 2657 |
| | N2A | 20.0 | 80.0 | 0.0 | 0.0 | 0.0 | 1320 |
| | N3A | 13.6 | 86.4 | 0.0 | 0.0 | 0.0 | 2200 |
| | N4 | 66.7 | 33.3 | 0.0 | 0.0 | 0.0 | 21 |
| | N4AA | 40.9 | 59.1 | 0.0 | 0.0 | 0.0 | 93 |
| | N4AB | 56.6 | 43.4 | 0.0 | 0.0 | 0.0 | 815 |
| | N4B | 17.7 | 82.4 | 0.0 | 0.0 | 0.0 | 17 |
| | N5 | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2 |
| | N6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | N7 | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 7 |
| | N8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | N9 | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4 |
| Dumbarton | N1 | 44.1 | 56.0 | 0.0 | 0.0 | 0.0 | 370 |
| | N2 | 45.7 | 54.3 | 0.0 | 0.0 | 0.0 | 116 |
| | N3 | 28.3 | 71.7 | 0.0 | 0.0 | 0.0 | 554 |
| | NPP1 | 54.4 | 45.6 | 0.0 | 0.0 | 0.0 | 158 |

Table 9. Percentage of divers foraging, roosting, and using islands, levees, or manmade structures (e.g., blinds, fence posts) in each pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. N is the total number of diver sightings during the study period.

| Complex | Pond | % Foraging | % Roosting | % Island | % Levee | % Manmade | N |
|---|---|---|---|---|---|---|---|
| Eden Landing | E1 | 8.2 | 91.8 | 0.0 | 0.0 | 0.0 | 7978 |
| | E10 | 11.9 | 87.7 | 0.4 | 0.0 | 0.0 | 968 |
| | E11 | 80.0 | 20.0 | 0.0 | 0.0 | 0.0 | 5 |
| | E12 | 41.7 | 58.3 | 0.0 | 0.0 | 0.0 | 24 |
| | E13 | 0.0 | 100.0 | 0.0 | 0.0 | 0.0 | 14 |
| | E14 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E1C | 14.7 | 85.3 | 0.0 | 0.0 | 0.0 | 34 |
| | E2 | 7.2 | 92.6 | 0.1 | 0.0 | 0.0 | 693 |
| | E2C | 33.3 | 66.7 | 0.0 | 0.0 | 0.0 | 3 |
| | E3C | 0.0 | 100.0 | 0.0 | 0.0 | 0.0 | 6 |
| | E4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E4C | 15.3 | 84.8 | 0.0 | 0.0 | 0.0 | 59 |
| | E5 | 70.8 | 29.2 | 0.0 | 0.0 | 0.0 | 439 |
| | E5C | 58.1 | 39.5 | 0.0 | 2.4 | 0.0 | 167 |
| | E6 | 75.8 | 24.2 | 0.0 | 0.0 | 0.0 | 95 |
| | E6A | 4.6 | 95.4 | 0.0 | 0.0 | 0.0 | 2852 |
| | E6B | 7.2 | 92.8 | 0.0 | 0.0 | 0.0 | 306 |
| | E6C | 7.6 | 92.5 | 0.0 | 0.0 | 0.0 | 636 |
| | E7 | 49.2 | 50.8 | 0.0 | 0.0 | 0.0 | 388 |
| | E8 | 0.4 | 99.4 | 0.2 | 0.0 | 0.0 | 484 |
| | E8AE | 0.0 | 100.0 | 0.0 | 0.0 | 0.0 | 4 |
| | E8AW | 13.8 | 85.0 | 1.3 | 0.0 | 0.0 | 80 |
| | E8XN | 0.0 | 100.0 | 0.0 | 0.0 | 0.0 | 4 |
| | E8XS | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E9 | 50.0 | 50.0 | 0.0 | 0.0 | 0.0 | 92 |

Table 9. Percentage of divers foraging, roosting, and using islands, levees, or manmade structures (e.g., blinds, fence posts) in each pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. N is the total number of diver sightings during the study period.

| Complex | Pond | % Foraging | % Roosting | % Island | % Levee | % Manmade | N |
|---|---|---|---|---|---|---|---|
| Mowry | M1 | 0.0 | 100.0 | 0.0 | 0.0 | 0.0 | 18 |
| | M2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | M3 | 0.0 | 100.0 | 0.0 | 0.0 | 0.0 | 10 |
| | M4 | 5.3 | 94.7 | 0.0 | 0.0 | 0.0 | 379 |
| | M5 | 83.3 | 16.7 | 0.0 | 0.0 | 0.0 | 336 |
| | M6 | 26.5 | 73.5 | 0.0 | 0.0 | 0.0 | 68 |
| Ravenswood | R1 | 45.3 | 54.7 | 0.0 | 0.0 | 0.0 | 1141 |
| | R2 | 55.0 | 44.8 | 0.2 | 0.0 | 0.0 | 453 |
| | R3 | 51.4 | 48.6 | 0.0 | 0.0 | 0.0 | 70 |
| | R4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | R5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | R5S | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | RSF2U1 | 11.3 | 87.4 | 1.3 | 0.0 | 0.0 | 302 |
| | RSF2U2 | 33.8 | 63.2 | 3.0 | 0.0 | 0.0 | 367 |
| | RSF2U3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | RSF2U4 | 7.0 | 93.0 | 0.0 | 0.0 | 0.0 | 243 |

Table 10. Percentage of Eared Grebes foraging, roosting, and using islands, levees, or manmade structures (e.g., blinds, fence posts) in each pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. N is the total number of Eared Grebe sightings during the study period.

| Complex | Pond | % Foraging | % Roosting | % Island | % Levee | % Manmade | N |
|---|---|---|---|---|---|---|---|
| Alviso | A1 | 56.8 | 43.2 | 0.0 | 0.0 | 0.0 | 37 |
| | A10 | 47.4 | 52.6 | 0.0 | 0.0 | 0.0 | 270 |
| | A11 | 20.3 | 79.7 | 0.0 | 0.0 | 0.0 | 59 |
| | A12 | 52.7 | 47.3 | 0.0 | 0.0 | 0.0 | 4441 |
| | A13 | 76.2 | 23.9 | 0.0 | 0.0 | 0.0 | 1262 |
| | A14 | 30.9 | 69.1 | 0.0 | 0.0 | 0.0 | 97 |
| | A15 | 53.8 | 46.2 | 0.0 | 0.0 | 0.0 | 2943 |
| | A16 | 44.4 | 55.6 | 0.0 | 0.0 | 0.0 | 45 |
| | A17 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | A19 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | A22 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | A23 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | A2E | 39.3 | 60.7 | 0.0 | 0.0 | 0.0 | 28 |
| | A2W | 15.6 | 84.4 | 0.0 | 0.0 | 0.0 | 32 |
| | A3N | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | A3W | 42.4 | 57.6 | 0.0 | 0.0 | 0.0 | 59 |
| | A5 | 88.2 | 11.8 | 0.0 | 0.0 | 0.0 | 17 |
| | A6S | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | A7 | 15.8 | 84.2 | 0.0 | 0.0 | 0.0 | 38 |
| | A8 | 50.0 | 50.0 | 0.0 | 0.0 | 0.0 | 16 |
| | A8S | 90.0 | 10.0 | 0.0 | 0.0 | 0.0 | 20 |
| | A8W | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2 |
| | A9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | AB1 | 75.0 | 25.0 | 0.0 | 0.0 | 0.0 | 4 |
| | AB2 | 0.0 | 100.0 | 0.0 | 0.0 | 0.0 | 3 |
| Coyote Hills | N1A | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1 |
| | N2A | 42.4 | 57.6 | 0.0 | 0.0 | 0.0 | 99 |
| | N3A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | N4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | N4AA | 83.3 | 16.7 | 0.0 | 0.0 | 0.0 | 6 |
| | N4AB | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 36 |
| | N4B | 0.0 | 100.0 | 0.0 | 0.0 | 0.0 | 1 |
| | N5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | N6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | N7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | N8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | N9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |

Table 10. Percentage of Eared Grebes foraging, roosting, and using islands, levees, or manmade structures (e.g., blinds, fence posts) in each pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. N is the total number of Eared Grebe sightings during the study period.

| Complex | Pond | % Foraging | % Roosting | % Island | % Levee | % Manmade | N |
|---|---|---|---|---|---|---|---|
| Dumbarton | N1 | 40.8 | 59.2 | 0.0 | 0.0 | 0.0 | 814 |
| | N2 | 26.8 | 73.2 | 0.0 | 0.0 | 0.0 | 605 |
| | N3 | 12.2 | 87.8 | 0.0 | 0.0 | 0.0 | 952 |
| | NPP1 | 21.4 | 78.6 | 0.0 | 0.0 | 0.0 | 1287 |
| Eden Landing | E1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E10 | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 31 |
| | E11 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E12 | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1 |
| | E13 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E14 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E1C | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1 |
| | E2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E2C | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E3C | 40.0 | 60.0 | 0.0 | 0.0 | 0.0 | 5 |
| | E4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E4C | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E5 | 0.0 | 100.0 | 0.0 | 0.0 | 0.0 | 1 |
| | E5C | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E6 | 66.7 | 33.3 | 0.0 | 0.0 | 0.0 | 3 |
| | E6A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E6B | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E6C | 34.3 | 65.7 | 0.0 | 0.0 | 0.0 | 35 |
| | E7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E8 | 0.0 | 100.0 | 0.0 | 0.0 | 0.0 | 1 |
| | E8AE | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E8AW | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E8XN | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E8XS | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |

Table 10. Percentage of Eared Grebes foraging, roosting, and using islands, levees, or manmade structures (e.g., blinds, fence posts) in each pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. N is the total number of Eared Grebe sightings during the study period.

| Complex | Pond | % Foraging | % Roosting | % Island | % Levee | % Manmade | N |
|---|---|---|---|---|---|---|---|
| Mowry | M1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | M2 | 36.4 | 63.6 | 0.0 | 0.0 | 0.0 | 11 |
| | M3 | 62.4 | 37.6 | 0.0 | 0.0 | 0.0 | 4974 |
| | M4 | 27.0 | 73.0 | 0.0 | 0.0 | 0.0 | 11977 |
| | M5 | 78.0 | 22.0 | 0.0 | 0.0 | 0.0 | 2552 |
| | M6 | 54.3 | 45.7 | 0.0 | 0.0 | 0.0 | 2286 |
| Ravenswood | R1 | 48.1 | 52.0 | 0.0 | 0.0 | 0.0 | 256 |
| | R2 | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4 |
| | R3 | 31.9 | 68.1 | 0.0 | 0.0 | 0.0 | 47 |
| | R4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | R5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | R5S | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | RSF2U1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | RSF2U2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | RSF2U3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | RSF2U4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |

Table 11. Percentage of fisheaters foraging, roosting, and using islands, levees, or manmade structures (e.g., blinds, fence posts) in each pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. N is the total number of fisheater sightings during the study period.

| Complex | Pond | % Foraging | % Roosting | % Island | % Levee | % Manmade | N |
|---|---|---|---|---|---|---|---|
| | A1 | 16.3 | 21.6 | 52.5 | 0.0 | 9.6 | 301 |
| | A10 | 8.6 | 49.3 | 0.0 | 42.2 | 0.0 | 1053 |
| | A11 | 24.9 | 19.4 | 0.0 | 54.9 | 0.8 | 936 |
| | A12 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | A13 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | A14 | 9.6 | 20.8 | 0.0 | 69.6 | 0.0 | 667 |
| | A15 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | A16 | 16.0 | 7.1 | 68.5 | 0.0 | 8.5 | 777 |
| | A17 | 1.3 | 0.9 | 96.0 | 1.3 | 0.4 | 227 |
| | A19 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | A22 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | A23 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| Alviso | A2E | 31.0 | 23.4 | 0.0 | 1.0 | 44.6 | 316 |
| | A2W | 12.6 | 30.8 | 4.7 | 2.8 | 49.1 | 214 |
| | A3N | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1 |
| | A3W | 20.8 | 23.1 | 0.0 | 0.0 | 56.1 | 653 |
| | A5 | 34.3 | 35.0 | 11.4 | 17.6 | 1.7 | 472 |
| | A6S | 50.0 | 25.0 | 0.0 | 0.0 | 25.0 | 8 |
| | A7 | 14.6 | 9.5 | 0.3 | 75.6 | 0.0 | 328 |
| | A8 | 41.7 | 58.3 | 0.0 | 0.0 | 0.0 | 156 |
| | A8S | 39.1 | 53.1 | 4.7 | 0.0 | 3.1 | 64 |
| | A8W | 60.0 | 30.0 | 10.0 | 0.0 | 0.0 | 10 |
| | A9 | 16.0 | 9.2 | 0.0 | 74.4 | 0.4 | 262 |
| | AB1 | 58.3 | 16.7 | 5.6 | 0.0 | 19.4 | 36 |
| | AB2 | 12.4 | 4.4 | 71.2 | 0.0 | 12.0 | 250 |

Table 11. Percentage of fisheaters foraging, roosting, and using islands, levees, or manmade structures (e.g., blinds, fence posts) in each pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. N is the total number of fisheater sightings during the study period.

| Complex | Pond | % Foraging | % Roosting | % Island | % Levee | % Manmade | N |
|---|---|---|---|---|---|---|---|
| Coyote Hills | N1A | 31.1 | 5.8 | 0.0 | 61.1 | 2.0 | 450 |
| | N2A | 13.2 | 37.9 | 0.0 | 48.8 | 0.2 | 486 |
| | N3A | 17.7 | 0.5 | 0.0 | 81.2 | 0.6 | 2769 |
| | N4 | 3.5 | 4.3 | 0.0 | 90.1 | 2.2 | 232 |
| | N4AA | 2.2 | 3.0 | 0.1 | 94.4 | 0.3 | 1040 |
| | N4AB | 4.1 | 18.8 | 21.9 | 55.0 | 0.3 | 2614 |
| | N4B | 57.1 | 42.9 | 0.0 | 0.0 | 0.0 | 7 |
| | N5 | 3.5 | 2.5 | 0.0 | 93.4 | 0.6 | 318 |
| | N6 | 3.4 | 0.6 | 1.1 | 94.9 | 0.0 | 176 |
| | N7 | 10.8 | 1.9 | 0.0 | 86.8 | 0.5 | 418 |
| | N8 | 7.2 | 21.7 | 0.0 | 71.1 | 0.0 | 83 |
| | N9 | 7.6 | 7.6 | 3.1 | 76.3 | 5.3 | 131 |
| Dumbarton | N1 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 4 |
| | N2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | N3 | 21.1 | 15.8 | 0.0 | 5.3 | 57.9 | 19 |
| | NPP1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |

Table 11. Percentage of fisheaters foraging, roosting, and using islands, levees, or manmade structures (e.g., blinds, fence posts) in each pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. N is the total number of fisheater sightings during the study period.

| Complex | Pond | % Foraging | % Roosting | % Island | % Levee | % Manmade | N |
|---|---|---|---|---|---|---|---|
| Eden Landing | E1 | 6.1 | 22.1 | 8.0 | 60.7 | 3.1 | 163 |
| | E10 | 11.1 | 18.1 | 41.7 | 0.0 | 29.2 | 72 |
| | E11 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E12 | 25.0 | 25.0 | 50.0 | 0.0 | 0.0 | 4 |
| | E13 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E14 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E1C | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2 |
| | E2 | 25.0 | 40.2 | 12.8 | 19.6 | 2.5 | 204 |
| | E2C | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E3C | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E4 | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 99 |
| | E5C | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3 |
| | E5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E5C | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E6 | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1 |
| | E6A | 2.4 | 0.4 | 32.0 | 65.2 | 0.0 | 250 |
| | E6B | 0.0 | 20.8 | 79.2 | 0.0 | 0.0 | 24 |
| | E6C | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E7 | 23.2 | 13.4 | 2.4 | 19.5 | 41.5 | 82 |
| | E8 | 0.0 | 100.0 | 0.0 | 0.0 | 0.0 | 1 |
| | E8AE | 0.0 | 0.0 | 100.0 | 0.0 | 0.0 | 1 |
| | E8AW | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2 |
| | E8XN | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E8XS | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E9 | 5.6 | 72.2 | 11.1 | 0.0 | 11.1 | 36 |

Table 11. Percentage of fisheaters foraging, roosting, and using islands, levees, or manmade structures (e.g., blinds, fence posts) in each pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. N is the total number of fisheater sightings during the study period.

| Complex | Pond | % Foraging | % Roosting | % Island | % Levee | % Manmade | N |
|---|---|---|---|---|---|---|---|
| Mowry | M1 | 15.4 | 5.6 | 0.0 | 77.7 | 1.4 | 573 |
| | M2 | 11.7 | 8.5 | 23.4 | 55.3 | 1.1 | 94 |
| | M3 | 10.3 | 0.0 | 3.5 | 86.2 | 0.0 | 29 |
| | M4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | M5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | M6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| Ravenswood | R1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | R2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | R3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | R4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | R5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | R5S | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | RSF2U1 | 35.8 | 0.0 | 10.1 | 38.2 | 15.9 | 207 |
| | RSF2U2 | 8.2 | 1.2 | 31.8 | 50.6 | 8.2 | 85 |
| | RSF2U3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | RSF2U4 | 80.0 | 20.0 | 0.0 | 0.0 | 0.0 | 5 |

Table 12. Percentage of terns foraging, roosting, and using islands, levees, or manmade structures (e.g., blinds, fence posts) in each pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. N is the total number of tern sightings during the study period.

| Complex | Pond | % Foraging | % Roosting | % Island | % Levee | % Manmade | N |
|---|---|---|---|---|---|---|---|
| | A1 | 5.0 | 0.0 | 0.4 | 0.0 | 94.6 | 241 |
| | A10 | 85.7 | 0.0 | 0.0 | 14.3 | 0.0 | 7 |
| | A11 | 14.5 | 0.0 | 0.0 | 85.5 | 0.0 | 76 |
| | A12 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 2 |
| | A13 | 80.0 | 20.0 | 0.0 | 0.0 | 0.0 | 5 |
| | A14 | 10.1 | 1.1 | 0.0 | 78.7 | 10.1 | 89 |
| | A15 | 0.0 | 0.0 | 0.0 | 8.0 | 92.0 | 25 |
| | A16 | 9.1 | 2.3 | 63.6 | 0.0 | 25.0 | 132 |
| | A17 | 42.9 | 7.1 | 7.1 | 0.0 | 42.9 | 14 |
| | A19 | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 10 |
| | A22 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | A23 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| Alviso | A2E | 6.7 | 19.1 | 0.0 | 0.0 | 74.2 | 89 |
| | A2W | 2.8 | 1.4 | 44.7 | 0.0 | 51.2 | 215 |
| | A3N | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1 |
| | A3W | 32.2 | 0.4 | 0.0 | 0.9 | 66.5 | 236 |
| | A5 | 38.3 | 0.0 | 4.9 | 6.2 | 50.6 | 81 |
| | A6S | 50.0 | 0.0 | 42.9 | 0.0 | 7.1 | 28 |
| | A7 | 1.7 | 0.0 | 3.5 | 84.5 | 10.3 | 58 |
| | A8 | 20.0 | 0.0 | 20.0 | 0.0 | 60.0 | 5 |
| | A8S | 0.0 | 0.0 | 0.0 | 50.0 | 50.0 | 2 |
| | A8W | 10.9 | 0.0 | 89.1 | 0.0 | 0.0 | 64 |
| | A9 | 35.1 | 10.8 | 32.4 | 0.0 | 21.6 | 37 |
| | AB1 | 62.5 | 0.5 | 29.4 | 0.0 | 7.6 | 184 |
| | AB2 | 15.4 | 8.6 | 63.3 | 2.6 | 10.3 | 117 |

Table 12. Percentage of terns foraging, roosting, and using islands, levees, or manmade structures (e.g., blinds, fence posts) in each pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. N is the total number of tern sightings during the study period.

| Complex | Pond | % Foraging | % Roosting | % Island | % Levee | % Manmade | N |
|---|---|---|---|---|---|---|---|
| Coyote Hills | N1A | 22.1 | 0.0 | 0.0 | 73.5 | 4.4 | 68 |
| | N2A | 19.0 | 0.0 | 0.0 | 79.0 | 2.0 | 100 |
| | N3A | 0.5 | 0.0 | 0.0 | 86.5 | 12.9 | 371 |
| | N4 | 0.0 | 0.0 | 0.0 | 94.3 | 5.8 | 87 |
| | N4AA | 26.1 | 0.0 | 0.0 | 39.1 | 34.8 | 23 |
| | N4AB | 5.6 | 0.0 | 0.5 | 87.4 | 6.5 | 214 |
| | N4B | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 7 |
| | N5 | 50.0 | 0.0 | 0.0 | 0.0 | 50.0 | 6 |
| | N6 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 5 |
| | N7 | 11.3 | 0.0 | 1.9 | 81.1 | 5.7 | 53 |
| | N8 | 3.6 | 1.2 | 0.0 | 93.3 | 1.8 | 165 |
| | N9 | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4 |
| Dumbarton | N1 | 0.0 | 0.0 | 40.9 | 0.0 | 59.1 | 22 |
| | N2 | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1 |
| | N3 | 50.0 | 0.0 | 50.0 | 0.0 | 0.0 | 6 |
| | NPP1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |

Table 12. Percentage of terns foraging, roosting, and using islands, levees, or manmade structures (e.g., blinds, fence posts) in each pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. N is the total number of tern sightings during the study period.

| Complex | Pond | % Foraging | % Roosting | % Island | % Levee | % Manmade | N |
|---|---|---|---|---|---|---|---|
| Eden Landing | E1 | 30.9 | 0.0 | 63.2 | 0.0 | 5.9 | 68 |
| | E10 | 29.5 | 0.0 | 19.2 | 2.6 | 48.7 | 78 |
| | E11 | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3 |
| | E12 | 14.3 | 4.8 | 0.0 | 0.0 | 81.0 | 21 |
| | E13 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E14 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E1C | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E2 | 60.0 | 20.0 | 2.9 | 1.9 | 15.2 | 105 |
| | E2C | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E3C | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E4 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 12 |
| | E4C | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E5C | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E6A | 75.0 | 0.0 | 8.3 | 0.0 | 16.7 | 12 |
| | E6B | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1 |
| | E6C | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E7 | 1.1 | 0.0 | 46.2 | 0.0 | 52.7 | 93 |
| | E8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E8AE | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 10 |
| | E8AW | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1 |
| | E8XN | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E8XS | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E9 | 4.8 | 33.3 | 33.3 | 0.0 | 28.6 | 21 |

Table 12. Percentage of terns foraging, roosting, and using islands, levees, or manmade structures (e.g., blinds, fence posts) in each pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. N is the total number of tern sightings during the study period.

| Complex | Pond | % Foraging | % Roosting | % Island | % Levee | % Manmade | N |
|---|---|---|---|---|---|---|---|
| Mowry | M1 | 40.0 | 0.0 | 0.0 | 0.0 | 60.0 | 65 |
| | M2 | 0.0 | 0.0 | 0.0 | 100.0 | 0.0 | 13 |
| | M3 | 0.0 | 0.0 | 0.0 | 50.0 | 50.0 | 2 |
| | M4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | M5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | M6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| Ravenswood | R1 | 0.0 | 2.8 | 0.6 | 0.0 | 96.7 | 179 |
| | R2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | R3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | R4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | R5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | R5S | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | RSF2U1 | 48.4 | 0.0 | 1.6 | 12.5 | 37.5 | 64 |
| | RSF2U2 | 0.0 | 0.0 | 50.0 | 25.0 | 25.0 | 4 |
| | RSF2U3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | RSF2U4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |

Table 13. Percentage of gulls foraging, roosting, and using islands, levees, or manmade structures (e.g., blinds, fence posts) in each pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. N is the total number of gull sightings during the study period.

| Complex | Pond | % Foraging | % Roosting | % Island | % Levee | % Manmade | N |
|---|---|---|---|---|---|---|---|
| | A1 | 0.8 | 22.7 | 67.4 | 7.5 | 1.7 | 898 |
| | A10 | 2.5 | 5.0 | 0.0 | 92.5 | 0.0 | 10056 |
| | A11 | 0.0 | 0.8 | 0.0 | 99.2 | 0.0 | 6420 |
| | A12 | 15.0 | 34.2 | 30.0 | 20.8 | 0.0 | 3384 |
| | A13 | 74.5 | 22.5 | 0.3 | 2.8 | 0.0 | 650 |
| | A14 | 0.3 | 0.0 | 0.0 | 99.7 | 0.0 | 17181 |
| | A15 | 86.0 | 10.9 | 0.0 | 3.1 | 0.0 | 1465 |
| | A16 | 4.8 | 12.0 | 44.4 | 38.7 | 0.2 | 1154 |
| | A17 | 2.9 | 3.8 | 59.2 | 33.2 | 0.8 | 238 |
| | A19 | 1.2 | 98.1 | 0.5 | 0.0 | 0.2 | 416 |
| | A22 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | A23 | 0.0 | 95.2 | 4.8 | 0.0 | 0.0 | 3404 |
| Alviso | A2E | 13.3 | 10.0 | 0.0 | 6.7 | 70.0 | 30 |
| | A2W | 2.9 | 68.6 | 5.7 | 0.0 | 22.9 | 35 |
| | A3N | 5.6 | 83.3 | 5.6 | 0.0 | 5.6 | 18 |
| | A3W | 0.8 | 6.3 | 0.0 | 0.0 | 92.9 | 127 |
| | A5 | 0.3 | 1.9 | 1.9 | 95.5 | 0.5 | 758 |
| | A6S | 41.7 | 3.9 | 34.1 | 19.9 | 0.5 | 408 |
| | A7 | 0.8 | 11.7 | 0.9 | 86.7 | 0.0 | 669 |
| | A8 | 15.0 | 50.0 | 20.0 | 15.0 | 0.0 | 20 |
| | A8S | 12.5 | 25.0 | 37.5 | 12.5 | 12.5 | 8 |
| | A8W | 25.0 | 25.0 | 25.0 | 0.0 | 25.0 | 4 |
| | A9 | 10.7 | 4.6 | 6.3 | 78.4 | 0.0 | 13155 |
| | AB1 | 17.7 | 35.3 | 0.0 | 11.8 | 35.3 | 17 |
| | AB2 | 15.5 | 8.5 | 66.0 | 5.0 | 5.0 | 200 |

Table 13. Percentage of gulls foraging, roosting, and using islands, levees, or manmade structures (e.g., blinds, fence posts) in each pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. N is the total number of gull sightings during the study period.

| Complex | Pond | % Foraging | % Roosting | % Island | % Levee | % Manmade | N |
|---|---|---|---|---|---|---|---|
| Coyote Hills | N1A | 22.6 | 5.6 | 0.0 | 71.1 | 0.7 | 539 |
| | N2A | 1.4 | 1.0 | 0.0 | 97.6 | 0.0 | 3310 |
| | N3A | 0.3 | 1.1 | 0.0 | 98.7 | 0.0 | 6968 |
| | N4 | 12.6 | 2.9 | 0.0 | 84.5 | 0.0 | 1059 |
| | N4AA | 16.5 | 3.4 | 2.2 | 70.8 | 7.1 | 322 |
| | N4AB | 0.5 | 0.3 | 3.9 | 95.4 | 0.0 | 2832 |
| | N4B | 21.5 | 3.1 | 0.0 | 72.3 | 3.1 | 65 |
| | N5 | 0.6 | 0.0 | 0.0 | 99.4 | 0.0 | 671 |
| | N6 | 0.3 | 0.0 | 0.0 | 99.7 | 0.0 | 6499 |
| | N7 | 2.1 | 0.3 | 0.0 | 97.5 | 0.0 | 3785 |
| | N8 | 10.1 | 0.4 | 0.0 | 89.5 | 0.0 | 1462 |
| | N9 | 1.6 | 1.6 | 0.2 | 96.6 | 0.0 | 3142 |
| Dumbarton | N1 | 78.4 | 0.4 | 16.1 | 3.7 | 1.5 | 809 |
| | N2 | 71.9 | 1.1 | 0.0 | 27.0 | 0.0 | 178 |
| | N3 | 22.4 | 9.3 | 36.6 | 29.1 | 2.6 | 505 |
| | NPP1 | 76.6 | 5.3 | 13.6 | 4.6 | 0.0 | 871 |

Table 13. Percentage of gulls foraging, roosting, and using islands, levees, or manmade structures (e.g., blinds, fence posts) in each pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. N is the total number of gull sightings during the study period.

| Complex | Pond | % Foraging | % Roosting | % Island | % Levee | % Manmade | N |
|---|---|---|---|---|---|---|---|
| Eden Landing | E1 | 21.1 | 36.8 | 0.0 | 31.6 | 10.5 | 19 |
| | E10 | 40.0 | 15.0 | 40.0 | 0.0 | 5.0 | 20 |
| | E11 | 16.7 | 50.0 | 0.0 | 0.0 | 33.3 | 6 |
| | E12 | 78.2 | 0.0 | 21.9 | 0.0 | 0.0 | 119 |
| | E13 | 75.0 | 0.0 | 25.0 | 0.0 | 0.0 | 8 |
| | E14 | 97.9 | 2.1 | 0.0 | 0.0 | 0.0 | 47 |
| | E1C | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E2 | 17.7 | 23.6 | 52.0 | 5.6 | 1.1 | 356 |
| | E2C | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E3C | 0.0 | 100.0 | 0.0 | 0.0 | 0.0 | 23 |
| | E4 | 80.0 | 2.7 | 0.9 | 2.7 | 13.6 | 110 |
| | E4C | 0.0 | 2.9 | 91.4 | 0.0 | 5.7 | 35 |
| | E5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E5C | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E6 | 25.3 | 20.6 | 0.0 | 3.1 | 51.0 | 194 |
| | E6A | 3.1 | 3.2 | 86.7 | 6.5 | 0.6 | 713 |
| | E6B | 61.3 | 29.7 | 9.0 | 0.0 | 0.0 | 155 |
| | E6C | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 131 |
| | E7 | 0.0 | 30.0 | 0.0 | 30.0 | 40.0 | 10 |
| | E8 | 0.0 | 50.0 | 33.3 | 0.0 | 16.7 | 6 |
| | E8AE | 0.0 | 100.0 | 0.0 | 0.0 | 0.0 | 20 |
| | E8AW | 10.3 | 89.7 | 0.0 | 0.0 | 0.0 | 29 |
| | E8XN | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E8XS | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E9 | 12.5 | 62.5 | 12.5 | 0.0 | 12.5 | 8 |

Table 13. Percentage of gulls foraging, roosting, and using islands, levees, or manmade structures (e.g., blinds, fence posts) in each pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. N is the total number of gull sightings during the study period.

| Complex | Pond | % Foraging | % Roosting | % Island | % Levee | % Manmade | N |
|---|---|---|---|---|---|---|---|
| Mowry | M1 | 1.1 | 0.6 | 0.2 | 98.1 | 0.0 | 1670 |
| | M2 | 0.5 | 0.2 | 19.8 | 79.5 | 0.0 | 837 |
| | M3 | 13.8 | 24.2 | 46.0 | 15.7 | 0.3 | 8431 |
| | M4 | 8.4 | 16.7 | 0.2 | 74.9 | 0.0 | 8337 |
| | M5 | 3.8 | 0.8 | 2.2 | 93.3 | 0.0 | 3996 |
| | M6 | 89.5 | 4.1 | 0.8 | 0.0 | 5.5 | 487 |
| Ravenswood | R1 | 64.8 | 34.7 | 0.0 | 0.1 | 0.5 | 877 |
| | R2 | 68.5 | 15.7 | 15.9 | 0.0 | 0.0 | 971 |
| | R3 | 83.1 | 0.2 | 16.8 | 0.0 | 0.0 | 649 |
| | R4 | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2 |
| | R5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | R5S | 0.0 | 100.0 | 0.0 | 0.0 | 0.0 | 30 |
| | RSF2U1 | 27.8 | 5.6 | 5.6 | 11.1 | 50.0 | 18 |
| | RSF2U2 | 7.7 | 25.0 | 67.3 | 0.0 | 0.0 | 52 |
| | RSF2U3 | 0.0 | 0.0 | 0.0 | 100.0 | 0.0 | 2 |
| | RSF2U4 | 0.0 | 50.0 | 0.0 | 50.0 | 0.0 | 2 |

Table 14. Percentage of medium shorebirds foraging, roosting, and using islands, levees, or manmade structures (e.g., blinds, fence posts) in each pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. N is the total number of medium shorebird sightings during the study period.

| Complex | Pond | % Foraging | % Roosting | % Island | % Levee | % Manmade | N |
|---|---|---|---|---|---|---|---|
| Alviso | A1 | 0.0 | 0.0 | 8.7 | 0.0 | 91.3 | 23 |
| | A10 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | A11 | 0.0 | 0.0 | 0.0 | 100.0 | 0.0 | 3 |
| | A12 | 59.9 | 39.6 | 0.4 | 0.0 | 0.0 | 2732 |
| | A13 | 78.6 | 14.6 | 5.8 | 0.0 | 1.0 | 103 |
| | A14 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | A15 | 6.9 | 92.2 | 0.0 | 0.9 | 0.0 | 231 |
| | A16 | 38.3 | 47.2 | 14.1 | 0.4 | 0.0 | 517 |
| | A17 | 6.4 | 27.7 | 28.7 | 37.2 | 0.0 | 94 |
| | A19 | 97.3 | 2.7 | 0.1 | 0.0 | 0.0 | 1508 |
| | A22 | 0.0 | 0.0 | 100.0 | 0.0 | 0.0 | 2 |
| | A23 | 0.0 | 100.0 | 0.0 | 0.0 | 0.0 | 574 |
| | A2E | 0.0 | 100.0 | 0.0 | 0.0 | 0.0 | 1 |
| | A2W | 14.9 | 10.5 | 70.2 | 4.5 | 0.0 | 67 |
| | A3N | 0.5 | 99.4 | 0.0 | 0.0 | 0.0 | 2335 |
| | A3W | 59.1 | 9.1 | 0.0 | 27.3 | 4.6 | 22 |
| | A5 | 46.7 | 14.1 | 4.4 | 34.8 | 0.0 | 135 |
| | A6S | 88.8 | 0.0 | 11.1 | 0.1 | 0.0 | 2955 |
| | A7 | 3.7 | 2.7 | 2.0 | 91.6 | 0.0 | 548 |
| | A8 | 30.0 | 60.0 | 10.0 | 0.0 | 0.0 | 10 |
| | A8S | 85.7 | 14.3 | 0.0 | 0.0 | 0.0 | 21 |
| | A8W | 33.3 | 16.7 | 16.7 | 0.0 | 33.3 | 6 |
| | A9 | 9.5 | 89.7 | 0.8 | 0.0 | 0.0 | 7283 |
| | AB1 | 68.7 | 1.5 | 29.9 | 0.0 | 0.0 | 67 |
| | AB2 | 4.2 | 36.8 | 59.0 | 0.0 | 0.0 | 190 |
| Coyote Hills | N1A | 0.9 | 48.3 | 0.0 | 50.8 | 0.0 | 563 |
| | N2A | 0.1 | 0.1 | 0.0 | 99.9 | 0.0 | 1990 |
| | N3A | 64.8 | 0.0 | 0.0 | 35.2 | 0.0 | 315 |
| | N4 | 0.3 | 0.0 | 0.0 | 99.2 | 0.6 | 1467 |
| | N4AA | 1.8 | 1.6 | 0.5 | 95.9 | 0.2 | 834 |
| | N4AB | 0.4 | 0.0 | 2.2 | 97.5 | 0.0 | 277 |
| | N4B | 34.6 | 7.3 | 0.0 | 52.7 | 5.5 | 55 |
| | N5 | 0.0 | 0.0 | 0.0 | 73.3 | 26.7 | 15 |
| | N6 | 0.0 | 0.0 | 0.0 | 100.0 | 0.0 | 1 |
| | N7 | 58.6 | 0.0 | 0.0 | 41.4 | 0.0 | 58 |
| | N8 | 0.0 | 76.8 | 0.0 | 23.2 | 0.0 | 521 |
| | N9 | 12.0 | 4.0 | 8.0 | 76.0 | 0.0 | 25 |

Table 14. Percentage of medium shorebirds foraging, roosting, and using islands, levees, or manmade structures (e.g., blinds, fence posts) in each pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. N is the total number of medium shorebird sightings during the study period.

| Complex | Pond | % Foraging | % Roosting | % Island | % Levee | % Manmade | N |
|---|---|---|---|---|---|---|---|
| Dumbarton | N1 | 14.5 | 3.8 | 59.0 | 1.0 | 21.6 | 1825 |
| | N2 | 31.8 | 37.9 | 0.0 | 30.3 | 0.0 | 66 |
| | N3 | 32.7 | 1.8 | 25.5 | 40.0 | 0.0 | 55 |
| | NPP1 | 73.6 | 8.2 | 14.9 | 3.4 | 0.0 | 208 |
| Eden Landing | E1 | 0.0 | 0.0 | 56.0 | 44.0 | 0.0 | 822 |
| | E10 | 1.4 | 20.8 | 30.1 | 47.4 | 0.3 | 591 |
| | E11 | 5.2 | 92.8 | 0.0 | 0.3 | 1.7 | 597 |
| | E12 | 51.5 | 22.1 | 23.0 | 2.3 | 1.1 | 1093 |
| | E13 | 24.1 | 13.8 | 47.4 | 1.5 | 13.2 | 1191 |
| | E14 | 17.7 | 58.3 | 0.1 | 0.6 | 23.3 | 1404 |
| | E1C | 33.9 | 66.0 | 0.0 | 0.1 | 0.0 | 1493 |
| | E2 | 0.5 | 0.0 | 96.5 | 3.0 | 0.0 | 1316 |
| | E2C | 84.4 | 12.5 | 0.0 | 3.1 | 0.0 | 128 |
| | E3C | 11.4 | 64.7 | 6.0 | 0.5 | 17.4 | 1682 |
| | E4 | 45.0 | 54.5 | 0.0 | 0.5 | 0.0 | 413 |
| | E4C | 8.0 | 17.5 | 4.9 | 27.5 | 42.1 | 7626 |
| | E5 | 51.9 | 27.5 | 0.0 | 0.0 | 20.6 | 730 |
| | E5C | 51.0 | 49.0 | 0.0 | 0.0 | 0.0 | 435 |
| | E6 | 7.2 | 48.9 | 19.6 | 23.1 | 1.2 | 581 |
| | E6A | 12.5 | 56.3 | 31.2 | 0.0 | 0.0 | 7542 |
| | E6B | 17.6 | 62.3 | 20.2 | 0.0 | 0.0 | 2857 |
| | E6C | 58.6 | 39.7 | 0.0 | 1.7 | 0.0 | 58 |
| | E7 | 0.2 | 0.0 | 0.0 | 0.0 | 99.8 | 1074 |
| | E8 | 0.8 | 98.8 | 0.1 | 0.0 | 0.3 | 10485 |
| | E8AE | 8.6 | 26.3 | 65.0 | 0.1 | 0.0 | 3201 |
| | E8AW | 25.7 | 71.9 | 1.8 | 0.6 | 0.0 | 335 |
| | E8XN | 78.3 | 4.4 | 0.0 | 17.4 | 0.0 | 23 |
| | E8XS | 76.3 | 13.2 | 10.5 | 0.0 | 0.0 | 38 |
| | E9 | 3.3 | 59.3 | 31.0 | 3.9 | 2.6 | 8087 |

Table 14. Percentage of medium shorebirds foraging, roosting, and using islands, levees, or manmade structures (e.g., blinds, fence posts) in each pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. N is the total number of medium shorebird sightings during the study period.

| Complex | Pond | % Foraging | % Roosting | % Island | % Levee | % Manmade | N |
|---|---|---|---|---|---|---|---|
| Mowry | M1 | 7.3 | 85.0 | 1.1 | 6.6 | 0.0 | 7199 |
| | M2 | 0.0 | 0.0 | 100.0 | 0.0 | 0.0 | 25 |
| | M3 | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 8 |
| | M4 | 0.0 | 0.0 | 0.0 | 100.0 | 0.0 | 5 |
| | M5 | 64.9 | 25.8 | 9.3 | 0.0 | 0.0 | 1235 |
| | M6 | 87.9 | 9.8 | 2.3 | 0.0 | 0.0 | 428 |
| Ravenswood | R1 | 10.0 | 89.2 | 0.6 | 0.2 | 0.0 | 4070 |
| | R2 | 36.3 | 63.5 | 0.3 | 0.0 | 0.0 | 1070 |
| | R3 | 66.1 | 9.7 | 23.6 | 0.6 | 0.0 | 330 |
| | R4 | 10.5 | 81.6 | 7.9 | 0.0 | 0.0 | 38 |
| | R5 | 39.9 | 59.0 | 1.1 | 0.0 | 0.0 | 183 |
| | R5S | 9.3 | 90.7 | 0.0 | 0.0 | 0.0 | 685 |
| | RSF2U1 | 9.1 | 2.0 | 78.4 | 0.0 | 10.6 | 199 |
| | RSF2U2 | 0.0 | 43.7 | 56.3 | 0.0 | 0.0 | 9582 |
| | RSF2U3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | RSF2U4 | 0.0 | 0.0 | 0.0 | 100.0 | 0.0 | 1 |

Table 15. Percentage of phalaropes foraging, roosting, and using islands, levees, or manmade structures (e.g., blinds, fence posts) in each pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. N is the total number of phalarope sightings during the study period.

| Complex | Pond | % Foraging | % Roosting | % Island | % Levee | % Manmade | N |
|---|---|---|---|---|---|---|---|
| | A1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | A10 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | A11 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | A12 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | A13 | 88.9 | 5.6 | 5.6 | 0.0 | 0.0 | 18 |
| | A14 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | A15 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | A16 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | A17 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | A19 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | A22 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | A23 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| Alviso | A2E | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | A2W | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | A3N | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | A3W | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | A5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | A6S | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | A7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | A8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | A8S | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | A8W | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | A9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | AB1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | AB2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |

Table 15. Percentage of phalaropes foraging, roosting, and using islands, levees, or manmade structures (e.g., blinds, fence posts) in each pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. N is the total number of phalarope sightings during the study period.

| Complex | Pond | % Foraging | % Roosting | % Island | % Levee | % Manmade | N |
|---|---|---|---|---|---|---|---|
| Coyote Hills | N1A | 0.0 | 0.0 | 0.0 | 100.0 | 0.0 | 1 |
| | N2A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | N3A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | N4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | N4AA | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | N4AB | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | N4B | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | N5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | N6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | N7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | N8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | N9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| Dumbarton | N1 | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 6 |
| | N2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | N3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | NPP1 | 66.7 | 33.3 | 0.0 | 0.0 | 0.0 | 195 |

Table 15. Percentage of phalaropes foraging, roosting, and using islands, levees, or manmade structures (e.g., blinds, fence posts) in each pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. N is the total number of phalarope sightings during the study period.

| Complex | Pond | % Foraging | % Roosting | % Island | % Levee | % Manmade | N |
|---|---|---|---|---|---|---|---|
| Eden Landing | E1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E10 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E11 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E12 | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3 |
| | E13 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E14 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E1C | 0.0 | 100.0 | 0.0 | 0.0 | 0.0 | 4 |
| | E2 | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 6 |
| | E2C | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E3C | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 5 |
| | E4 | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 35 |
| | E4C | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E5 | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1952 |
| | E5C | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2 |
| | E6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E6A | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E6B | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1 |
| | E6C | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1 |
| | E7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E8AE | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E8AW | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E8XN | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E8XS | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |

Table 15. Percentage of phalaropes foraging, roosting, and using islands, levees, or manmade structures (e.g., blinds, fence posts) in each pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. N is the total number of phalarope sightings during the study period.

| Complex | Pond | % Foraging | % Roosting | % Island | % Levee | % Manmade | N |
|---|---|---|---|---|---|---|---|
| Mowry | M1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | M2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | M3 | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 396 |
| | M4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | M5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | M6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| Ravenswood | R1 | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 6 |
| | R2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | R3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | R4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | R5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | R5S | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | RSF2U1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | RSF2U2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | RSF2U3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | RSF2U4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |

Table 16. Percentage of small shorebirds foraging, roosting, and using islands, levees, or manmade structures (e.g., blinds, fence posts) in each pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. N is the total number of small shorebird sightings during the study period.

| Complex | Pond | % Foraging | % Roosting | % Island | % Levee | % Manmade | N |
|---|---|---|---|---|---|---|---|
| Alviso | A1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | A10 | 23.1 | 46.2 | 0.0 | 30.8 | 0.0 | 13 |
| | A11 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | A12 | 59.7 | 10.7 | 29.6 | 0.0 | 0.0 | 16888 |
| | A13 | 88.4 | 2.1 | 8.5 | 1.1 | 0.0 | 4344 |
| | A14 | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 25 |
| | A15 | 55.7 | 38.1 | 0.0 | 6.1 | 0.0 | 1193 |
| | A16 | 39.2 | 4.2 | 55.7 | 0.9 | 0.0 | 1557 |
| | A17 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | A19 | 78.1 | 21.9 | 0.0 | 0.0 | 0.0 | 4572 |
| | A22 | 23.7 | 31.3 | 45.0 | 0.0 | 0.0 | 16828 |
| | A23 | 4.3 | 95.4 | 0.3 | 0.0 | 0.0 | 12471 |
| | A2E | 0.0 | 100.0 | 0.0 | 0.0 | 0.0 | 1 |
| | A2W | 4.4 | 0.0 | 3.7 | 0.6 | 91.2 | 776 |
| | A3N | 24.5 | 39.9 | 31.0 | 4.5 | 0.0 | 8383 |
| | A3W | 12.5 | 0.0 | 0.0 | 87.5 | 0.0 | 8 |
| | A5 | 97.9 | 0.0 | 2.1 | 0.0 | 0.0 | 48 |
| | A6S | 80.0 | 20.0 | 0.0 | 0.0 | 0.0 | 2505 |
| | A7 | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3 |
| | A8 | 0.0 | 0.0 | 100.0 | 0.0 | 0.0 | 1 |
| | A8S | 93.8 | 0.0 | 0.0 | 0.0 | 6.3 | 16 |
| | A8W | 87.5 | 0.0 | 6.3 | 0.0 | 6.3 | 32 |
| | A9 | 15.9 | 84.1 | 0.0 | 0.0 | 0.0 | 41397 |
| | AB1 | 42.1 | 47.4 | 0.0 | 0.0 | 10.5 | 19 |
| | AB2 | 7.2 | 0.0 | 92.8 | 0.0 | 0.0 | 97 |

Table 16. Percentage of small shorebirds foraging, roosting, and using islands, levees, or manmade structures (e.g., blinds, fence posts) in each pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. N is the total number of small shorebird sightings during the study period.

| Complex | Pond | % Foraging | % Roosting | % Island | % Levee | % Manmade | N |
|---|---|---|---|---|---|---|---|
| Coyote Hills | N1A | 91.2 | 0.0 | 0.0 | 8.8 | 0.0 | 227 |
| | N2A | 0.0 | 5.4 | 0.0 | 94.7 | 0.0 | 187 |
| | N3A | 96.2 | 3.8 | 0.0 | 0.0 | 0.0 | 1580 |
| | N4 | 52.1 | 0.0 | 0.0 | 47.9 | 0.0 | 117 |
| | N4AA | 37.5 | 12.5 | 0.0 | 50.0 | 0.0 | 16 |
| | N4AB | 82.2 | 1.4 | 2.1 | 14.4 | 0.0 | 146 |
| | N4B | 58.3 | 1.6 | 0.0 | 33.8 | 6.4 | 314 |
| | N5 | 20.4 | 5.5 | 6.7 | 14.5 | 52.9 | 255 |
| | N6 | 98.3 | 0.0 | 0.0 | 1.7 | 0.0 | 60 |
| | N7 | 67.3 | 30.9 | 0.0 | 1.8 | 0.0 | 55 |
| | N8 | 90.7 | 0.0 | 0.0 | 9.3 | 0.0 | 54 |
| | N9 | 92.9 | 0.0 | 0.2 | 6.9 | 0.0 | 580 |
| Dumbarton | N1 | 2.2 | 0.5 | 90.0 | 0.8 | 6.6 | 5169 |
| | N2 | 60.2 | 0.0 | 21.5 | 18.3 | 0.0 | 93 |
| | N3 | 65.3 | 0.2 | 12.9 | 13.3 | 8.3 | 481 |
| | NPP1 | 26.1 | 53.8 | 19.8 | 0.2 | 0.1 | 7637 |

Table 16. Percentage of small shorebirds foraging, roosting, and using islands, levees, or manmade structures (e.g., blinds, fence posts) in each pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. N is the total number of small shorebird sightings during the study period.

| Complex | Pond | % Foraging | % Roosting | % Island | % Levee | % Manmade | N |
|---|---|---|---|---|---|---|---|
| Eden Landing | E1 | 0.0 | 0.0 | 100.0 | 0.0 | 0.0 | 31 |
| | E10 | 62.0 | 35.4 | 2.7 | 0.0 | 0.0 | 113 |
| | E11 | 77.1 | 22.9 | 0.0 | 0.0 | 0.0 | 15069 |
| | E12 | 4.2 | 41.7 | 53.8 | 0.2 | 0.1 | 36031 |
| | E13 | 23.2 | 31.1 | 45.3 | 0.0 | 0.3 | 20873 |
| | E14 | 56.5 | 43.4 | 0.1 | 0.0 | 0.0 | 2998 |
| | E1C | 85.9 | 14.1 | 0.0 | 0.0 | 0.0 | 6118 |
| | E2 | 19.4 | 0.0 | 80.6 | 0.0 | 0.0 | 984 |
| | E2C | 94.7 | 0.1 | 4.8 | 0.4 | 0.0 | 1965 |
| | E3C | 27.0 | 56.1 | 15.2 | 0.0 | 1.7 | 3672 |
| | E4 | 28.2 | 71.5 | 0.3 | 0.0 | 0.0 | 755 |
| | E4C | 11.3 | 7.9 | 44.3 | 0.0 | 36.5 | 12021 |
| | E5 | 72.3 | 0.0 | 3.5 | 0.4 | 23.9 | 289 |
| | E5C | 88.7 | 7.4 | 2.8 | 1.1 | 0.0 | 4296 |
| | E6 | 54.0 | 42.9 | 2.5 | 0.5 | 0.0 | 755 |
| | E6A | 30.5 | 57.6 | 11.8 | 0.0 | 0.2 | 24280 |
| | E6B | 33.3 | 53.2 | 13.5 | 0.0 | 0.0 | 34297 |
| | E6C | 90.7 | 9.0 | 0.3 | 0.0 | 0.0 | 2707 |
| | E7 | 17.1 | 61.3 | 0.0 | 0.0 | 21.6 | 111 |
| | E8 | 4.6 | 88.1 | 7.3 | 0.0 | 0.0 | 69946 |
| | E8AE | 19.0 | 38.7 | 42.3 | 0.0 | 0.0 | 10535 |
| | E8AW | 67.0 | 31.6 | 1.4 | 0.0 | 0.0 | 361 |
| | E8XN | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 87 |
| | E8XS | 77.5 | 22.5 | 0.0 | 0.0 | 0.0 | 8966 |
| | E9 | 30.6 | 54.3 | 2.9 | 12.2 | 0.1 | 12430 |

Table 16. Percentage of small shorebirds foraging, roosting, and using islands, levees, or manmade structures (e.g., blinds, fence posts) in each pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. N is the total number of small shorebird sightings during the study period.

| Complex | Pond | % Foraging | % Roosting | % Island | % Levee | % Manmade | N |
|---|---|---|---|---|---|---|---|
| Mowry | M1 | 87.0 | 0.2 | 4.9 | 7.9 | 0.0 | 1134 |
| | M2 | 4.8 | 0.0 | 93.5 | 1.7 | 0.0 | 1128 |
| | M3 | 79.2 | 0.0 | 20.8 | 0.0 | 0.0 | 24 |
| | M4 | 73.5 | 0.1 | 14.3 | 12.2 | 0.0 | 954 |
| | M5 | 64.0 | 26.1 | 9.8 | 0.0 | 0.1 | 17096 |
| | M6 | 79.5 | 0.0 | 20.4 | 0.1 | 0.0 | 702 |
| Ravenswood | R1 | 47.8 | 44.0 | 8.2 | 0.0 | 0.1 | 10536 |
| | R2 | 43.6 | 37.5 | 18.7 | 0.2 | 0.0 | 3837 |
| | R3 | 44.3 | 5.5 | 49.9 | 0.4 | 0.0 | 3934 |
| | R4 | 9.8 | 69.9 | 20.3 | 0.0 | 0.0 | 143 |
| | R5 | 43.5 | 56.5 | 0.0 | 0.0 | 0.0 | 23 |
| | R5S | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 12 |
| | RSF2U1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | RSF2U2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | RSF2U3 | 60.0 | 40.0 | 0.0 | 0.0 | 0.0 | 5 |
| | RSF2U4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |

Table 17. Percentage of herons and egrets foraging, roosting, and using islands, levees, or manmade structures (e.g., blinds, fence posts) in each pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. N is the total number of heron and egret sightings during the study period.

| Complex | Pond | % Foraging | % Roosting | % Island | % Levee | % Manmade | N |
|---|---|---|---|---|---|---|---|
| | A1 | 57.9 | 10.5 | 0.0 | 7.9 | 23.7 | 38 |
| | A10 | 20.0 | 26.7 | 0.0 | 53.3 | 0.0 | 30 |
| | A11 | 39.5 | 7.9 | 0.0 | 52.6 | 0.0 | 38 |
| | A12 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | A13 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | A14 | 85.7 | 0.0 | 0.0 | 14.3 | 0.0 | 28 |
| | A15 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | A16 | 63.2 | 20.6 | 13.2 | 2.9 | 0.0 | 68 |
| | A17 | 2.8 | 2.8 | 4.2 | 90.3 | 0.0 | 72 |
| | A19 | 80.0 | 12.0 | 0.0 | 8.0 | 0.0 | 25 |
| | A22 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | A23 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| Alviso | A2E | 44.8 | 6.9 | 0.0 | 37.9 | 10.3 | 29 |
| | A2W | 41.7 | 4.2 | 0.0 | 41.7 | 12.5 | 24 |
| | A3N | 39.1 | 21.7 | 0.0 | 17.4 | 21.7 | 23 |
| | A3W | 46.2 | 0.0 | 0.0 | 36.5 | 17.3 | 52 |
| | A5 | 47.8 | 15.2 | 6.5 | 30.4 | 0.0 | 46 |
| | A6S | 0.0 | 50.0 | 0.0 | 50.0 | 0.0 | 2 |
| | A7 | 38.1 | 9.5 | 4.8 | 38.1 | 9.5 | 21 |
| | A8 | 50.0 | 0.0 | 22.2 | 22.2 | 5.6 | 18 |
| | A8S | 21.4 | 14.3 | 57.1 | 7.1 | 0.0 | 14 |
| | A8W | 16.7 | 50.0 | 0.0 | 33.3 | 0.0 | 6 |
| | A9 | 68.4 | 2.6 | 0.0 | 29.1 | 0.0 | 117 |
| | AB1 | 44.4 | 25.9 | 0.0 | 5.6 | 24.1 | 54 |
| | AB2 | 43.5 | 17.4 | 13.0 | 17.4 | 8.7 | 23 |

Table 17. Percentage of herons and egrets foraging, roosting, and using islands, levees, or manmade structures (e.g., blinds, fence posts) in each pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. N is the total number of heron and egret sightings during the study period.

| Complex | Pond | % Foraging | % Roosting | % Island | % Levee | % Manmade | N |
|---|---|---|---|---|---|---|---|
| Coyote Hills | N1A | 82.2 | 4.4 | 0.0 | 10.0 | 3.3 | 90 |
| | N2A | 66.7 | 0.0 | 0.0 | 27.8 | 5.6 | 18 |
| | N3A | 81.8 | 0.0 | 0.0 | 13.6 | 4.6 | 44 |
| | N4 | 3.8 | 0.9 | 0.0 | 95.3 | 0.0 | 106 |
| | N4AA | 87.0 | 0.0 | 5.2 | 6.5 | 1.3 | 77 |
| | N4AB | 27.5 | 2.5 | 22.5 | 47.5 | 0.0 | 40 |
| | N4B | 54.1 | 8.1 | 0.0 | 37.8 | 0.0 | 37 |
| | N5 | 57.1 | 14.3 | 0.0 | 14.3 | 14.3 | 7 |
| | N6 | 84.4 | 0.0 | 0.0 | 15.6 | 0.0 | 32 |
| | N7 | 36.7 | 33.3 | 0.0 | 26.7 | 3.3 | 30 |
| | N8 | 63.4 | 9.8 | 0.0 | 26.8 | 0.0 | 41 |
| | N9 | 38.0 | 0.0 | 0.9 | 61.1 | 0.0 | 108 |
| Dumbarton | N1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | N2 | 0.0 | 0.0 | 0.0 | 100.0 | 0.0 | 1 |
| | N3 | 33.3 | 8.3 | 0.0 | 41.7 | 16.7 | 12 |
| | NPP1 | 0.0 | 0.0 | 50.0 | 50.0 | 0.0 | 2 |

Table 17. Percentage of herons and egrets foraging, roosting, and using islands, levees, or manmade structures (e.g., blinds, fence posts) in each pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. N is the total number of heron and egret sightings during the study period.

| Complex | Pond | % Foraging | % Roosting | % Island | % Levee | % Manmade | N |
|---|---|---|---|---|---|---|---|
| Eden Landing | E1 | 12.5 | 12.5 | 12.5 | 50.0 | 12.5 | 8 |
| | E10 | 26.7 | 26.7 | 20.0 | 6.7 | 20.0 | 15 |
| | E11 | 70.6 | 0.0 | 0.0 | 23.5 | 5.9 | 17 |
| | E12 | 63.6 | 27.3 | 0.0 | 0.0 | 9.1 | 11 |
| | E13 | 0.0 | 0.0 | 0.0 | 100.0 | 0.0 | 1 |
| | E14 | 80.0 | 0.0 | 20.0 | 0.0 | 0.0 | 5 |
| | E1C | 75.0 | 25.0 | 0.0 | 0.0 | 0.0 | 4 |
| | E2 | 78.4 | 1.5 | 13.4 | 4.5 | 2.2 | 134 |
| | E2C | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4 |
| | E3C | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4 |
| | E4 | 56.5 | 1.6 | 25.8 | 3.2 | 12.9 | 62 |
| | E4C | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E5 | 0.0 | 0.0 | 0.0 | 50.0 | 50.0 | 2 |
| | E5C | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E6 | 87.5 | 0.0 | 0.0 | 12.5 | 0.0 | 8 |
| | E6A | 39.8 | 4.4 | 2.0 | 53.1 | 0.7 | 294 |
| | E6B | 54.6 | 1.5 | 0.0 | 9.1 | 34.9 | 66 |
| | E6C | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | E7 | 46.2 | 19.2 | 0.0 | 23.1 | 11.5 | 26 |
| | E8 | 66.7 | 9.5 | 0.0 | 4.8 | 19.1 | 21 |
| | E8AE | 91.7 | 8.3 | 0.0 | 0.0 | 0.0 | 12 |
| | E8AW | 60.0 | 40.0 | 0.0 | 0.0 | 0.0 | 5 |
| | E8XN | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 1 |
| | E8XS | 50.0 | 50.0 | 0.0 | 0.0 | 0.0 | 2 |
| | E9 | 29.2 | 29.2 | 0.0 | 22.9 | 18.8 | 48 |

Table 17. Percentage of herons and egrets foraging, roosting, and using islands, levees, or manmade structures (e.g., blinds, fence posts) in each pond, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. N is the total number of heron and egret sightings during the study period.

| Complex | Pond | % Foraging | % Roosting | % Island | % Levee | % Manmade | N |
|---|---|---|---|---|---|---|---|
| Mowry | M1 | 50.0 | 24.1 | 0.0 | 9.3 | 16.7 | 54 |
| | M2 | 52.9 | 0.0 | 11.8 | 32.4 | 2.9 | 34 |
| | M3 | 50.0 | 0.0 | 0.0 | 50.0 | 0.0 | 4 |
| | M4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | M5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | M6 | 25.0 | 0.0 | 0.0 | 50.0 | 25.0 | 4 |
| Ravenswood | R1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | R2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | R3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | R4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | R5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | R5S | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| | RSF2U1 | 37.5 | 2.7 | 50.0 | 6.3 | 3.6 | 112 |
| | RSF2U2 | 85.3 | 5.9 | 5.9 | 2.9 | 0.0 | 34 |
| | RSF2U3 | 0.0 | 0.0 | 0.0 | 100.0 | 0.0 | 2 |
| | RSF2U4 | 50.0 | 0.0 | 0.0 | 50.0 | 0.0 | 10 |

| Season | Month/Year | Survey # | Start date | End date | Complexes surveyed |
|---|---|---|---|---|---|
| Fall | September 2013 | Survey #97 | 9/4/2013 | 9/29/2013 | Coyote Hills, Dumbarton, Mowry |
| | October 2013 | No pond surveys conducted | | | |
| | November 2013 | | | | |
| Winter | December 2013 | | | | |
| | January 2014 | | | | |
| | February 2014 | Survey #98 | 1/13/2014 | 2/27/2014 | all |
| Spring | March 2014 | Survey #99 | 3/4/2014 | 4/14/2014 | all |
| | April 2014 | | | | |
| | May 2014 | Survey #100 | 4/16/2014 | 5/30/2014 | all |
| Summer | June 2014 | Survey #101 | 6/30/2014 | 8/8/2014 | all |
| | July 2014 | | | | |
| | August 2014 | | | | |

Figure 1. Schedule of surveys for the 2013-2014 reporting period. Survey number is a consecutive number dating back to when SFBBO began surveying ponds in 2005. Survey #97 (September 2013) was a monthly survey of only Cargill-managed ponds (Coyote Hills, Dumbarton and Mowry pond complexes). No pond surveys were conducted between October 2013 and January 12, 2014 due to a transition in funding and survey design. On January 13, 2014, SFBBO began surveying ponds during 6 week periods (twice during Fall, Winter and Spring; once during Summer). All complexes included are Alviso, Coyote Hills, Dumbarton, Eden Landing, Mowry and Ravenswood.

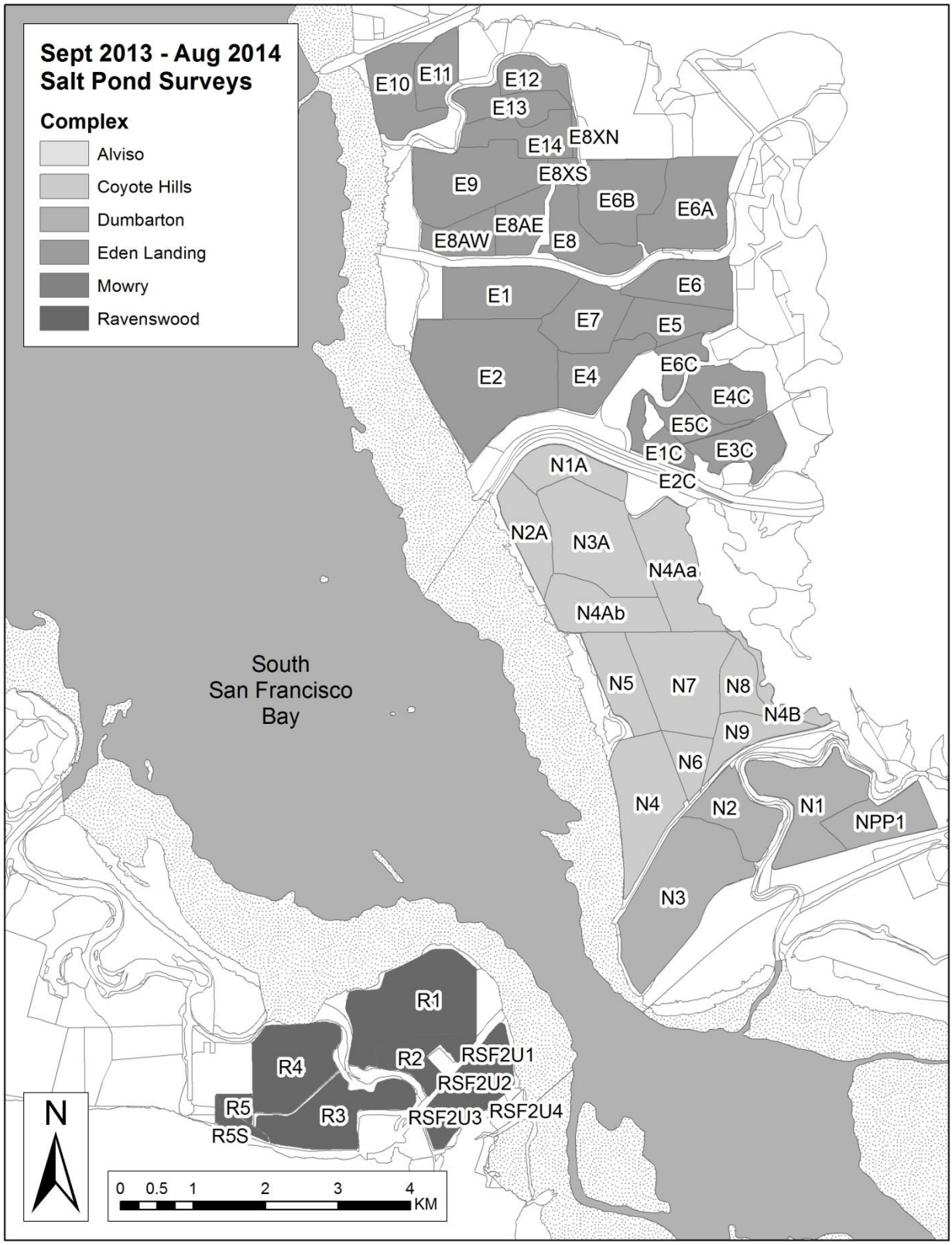


Figure 2. The Coyote Hills, Dumbarton, Eden Landing and Ravenswood salt pond complexes surveyed by the San Francisco Bay Bird Observatory from September 2013 – August 2014, South San Francisco Bay, California.

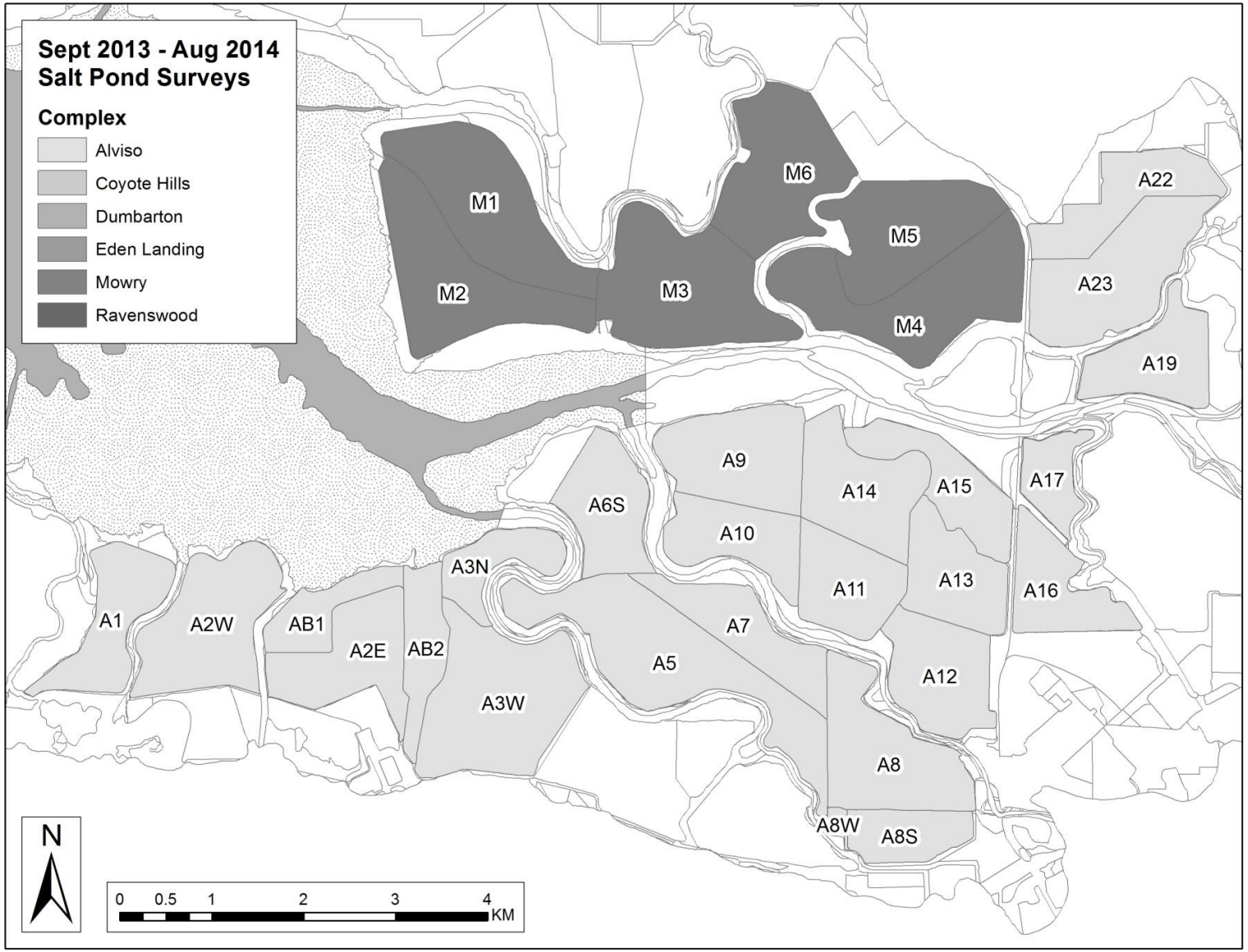


Figure 3. The Alviso and Mowry salt pond complexes surveyed by the San Francisco Bay Bird Observatory from September 2013 – August 2014, South San Francisco Bay, California.

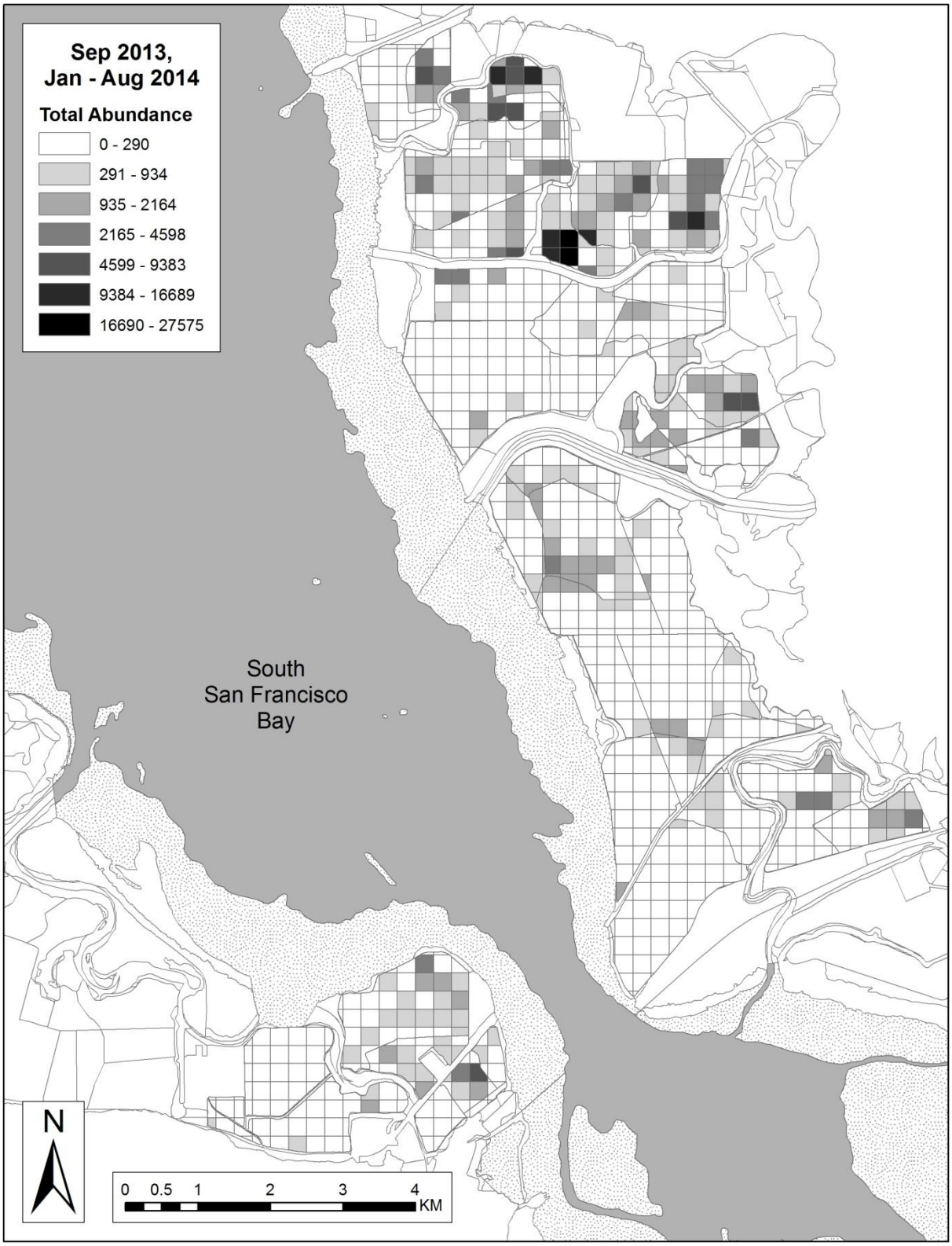


Figure 4. Bird abundance (all guilds) in each 250 $m^2$ salt pond grid in the Coyote Hills, Dumbarton, Eden Landing and Ravenswood pond complexes, South San Francisco Bay, California; Sept. 2013, Jan. -Aug. 2014.

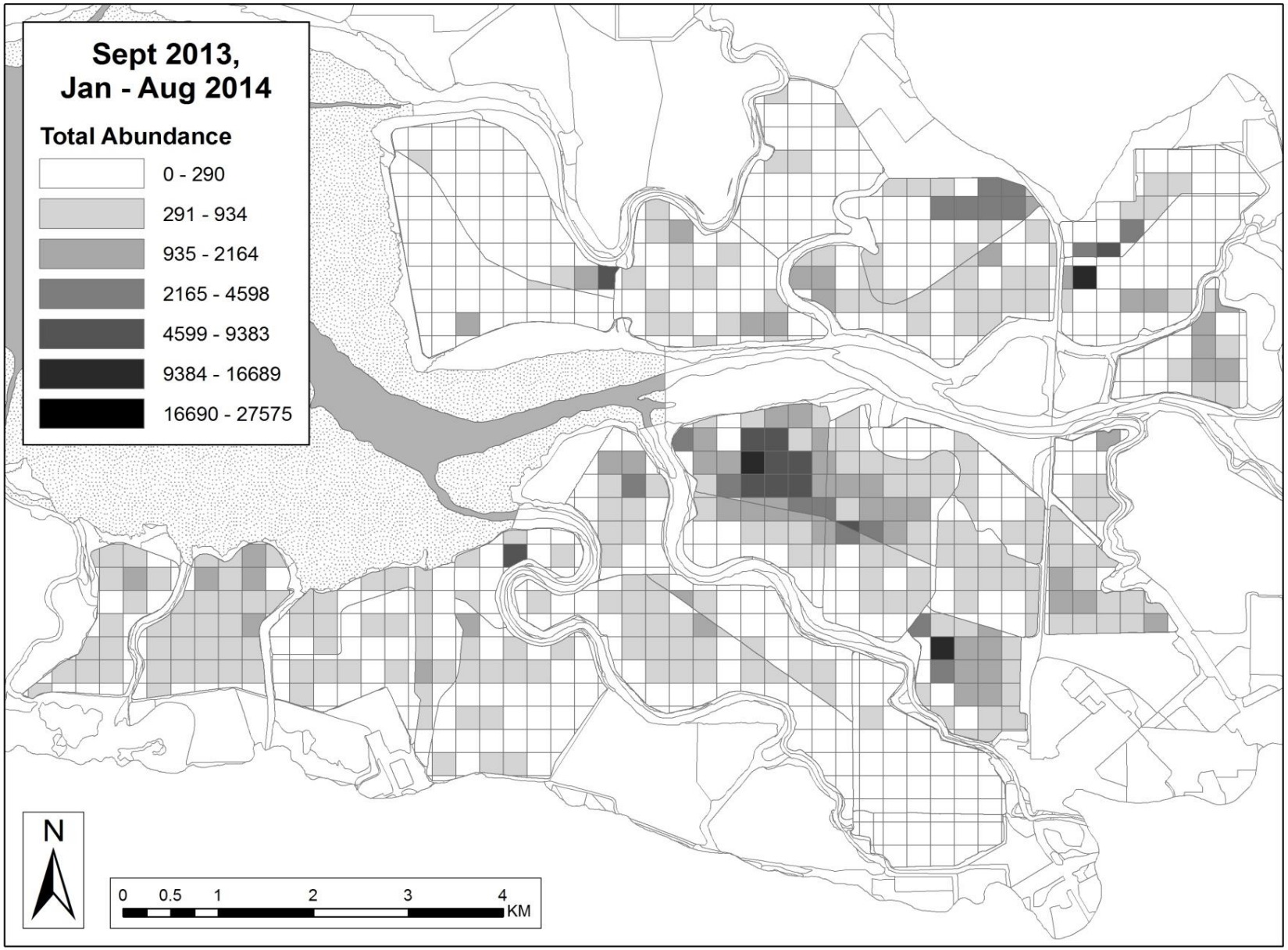


Figure 5. Bird abundance (all guilds) in each 250 $m^2$ pond grid in the Alviso and Mowry pond complexes, South San Francisco Bay, California; Sept. 2013, Jan. -Aug. 2014.

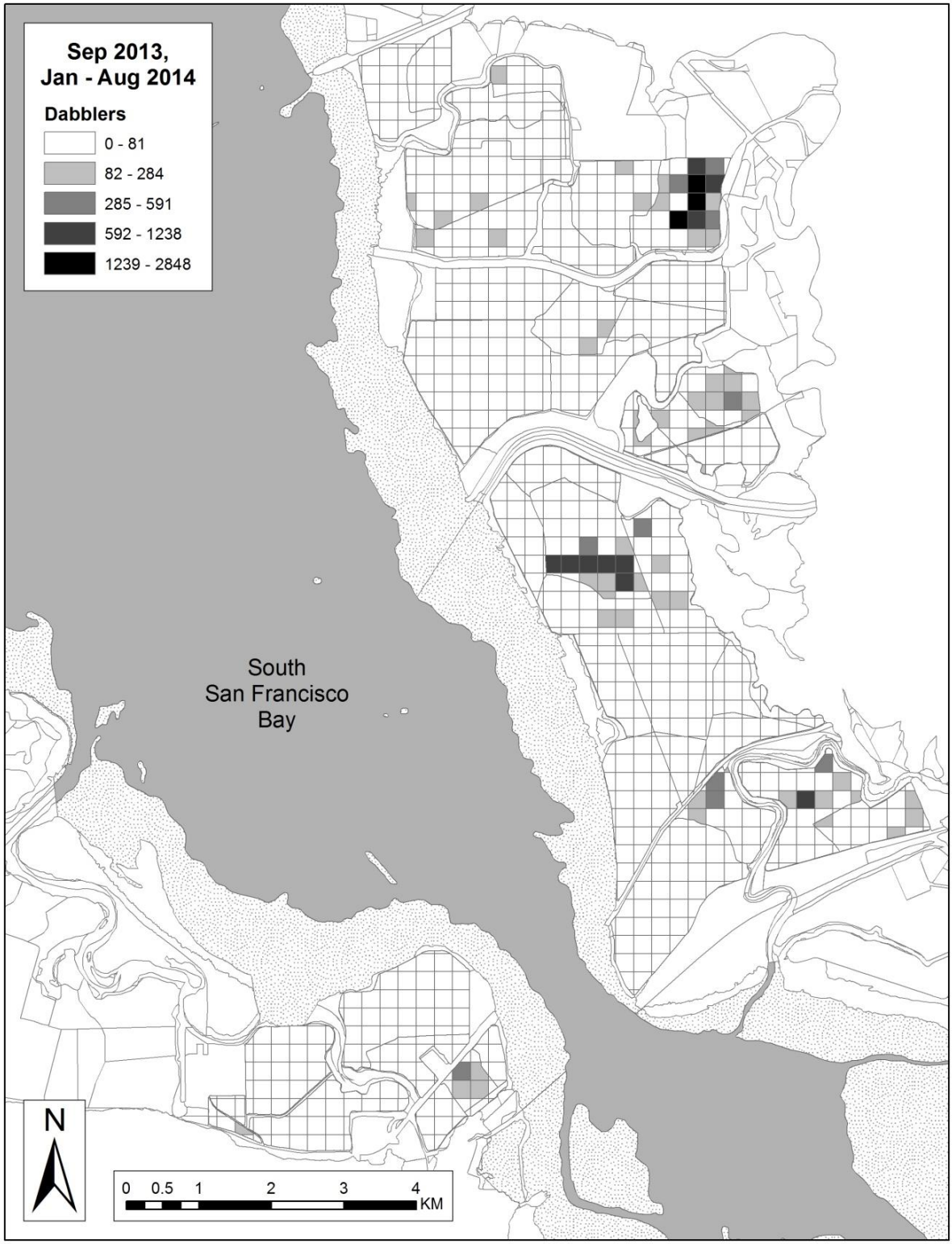


Figure 6. Dabbler abundance in each 250 $m^2$ pond grid in the Coyote Hills, Dumbarton, Eden Landing and Ravenswood pond complexes, South San Francisco Bay, California; Sept. 2013, Jan. -Aug. 2014.

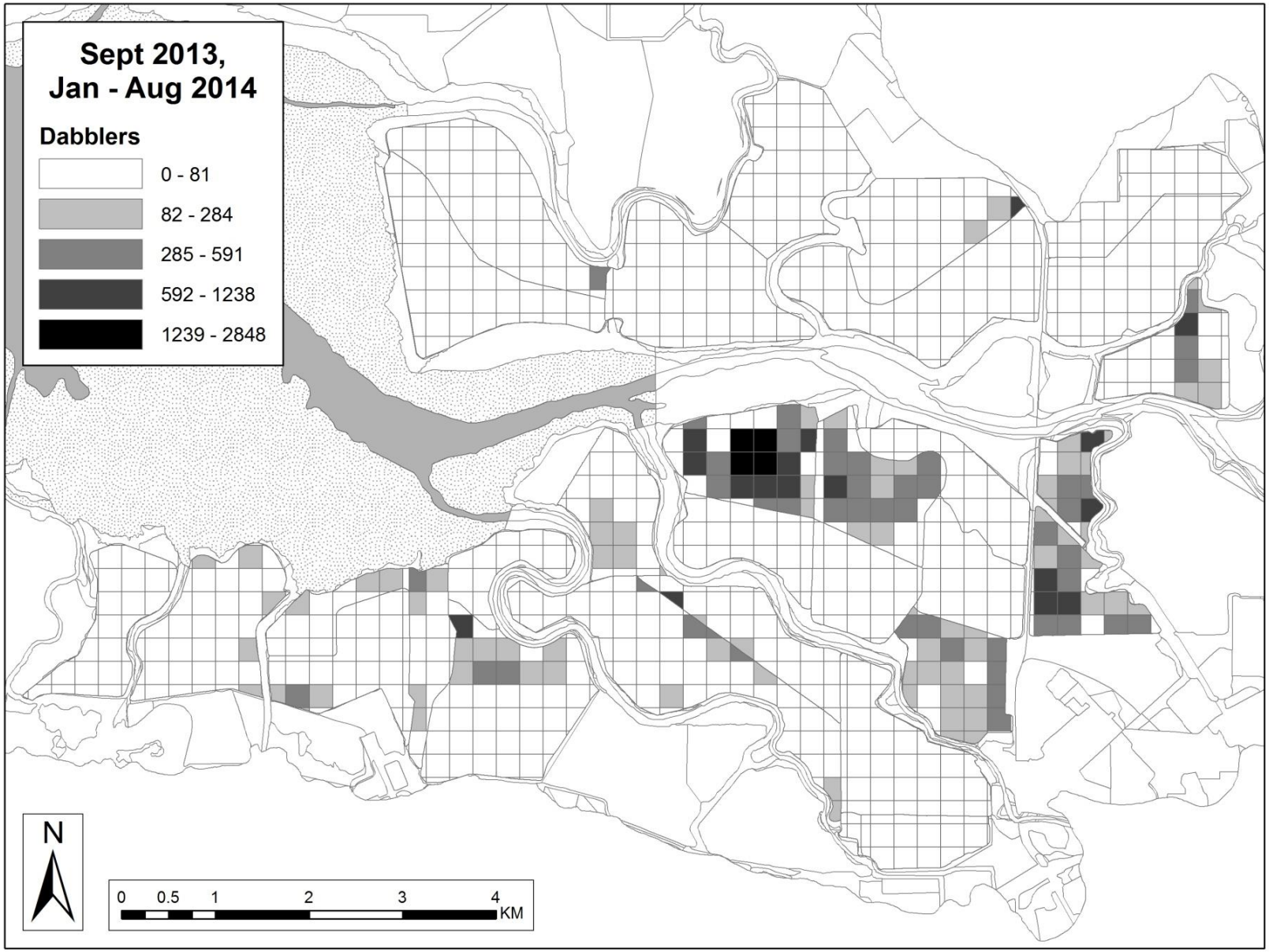


Figure 7. Dabbler abundance in each 250 $m^2$ pond grid in the Alviso and Mowry pond complexes, South San Francisco Bay, California; Sept. 2013, Jan. -Aug. 2014.

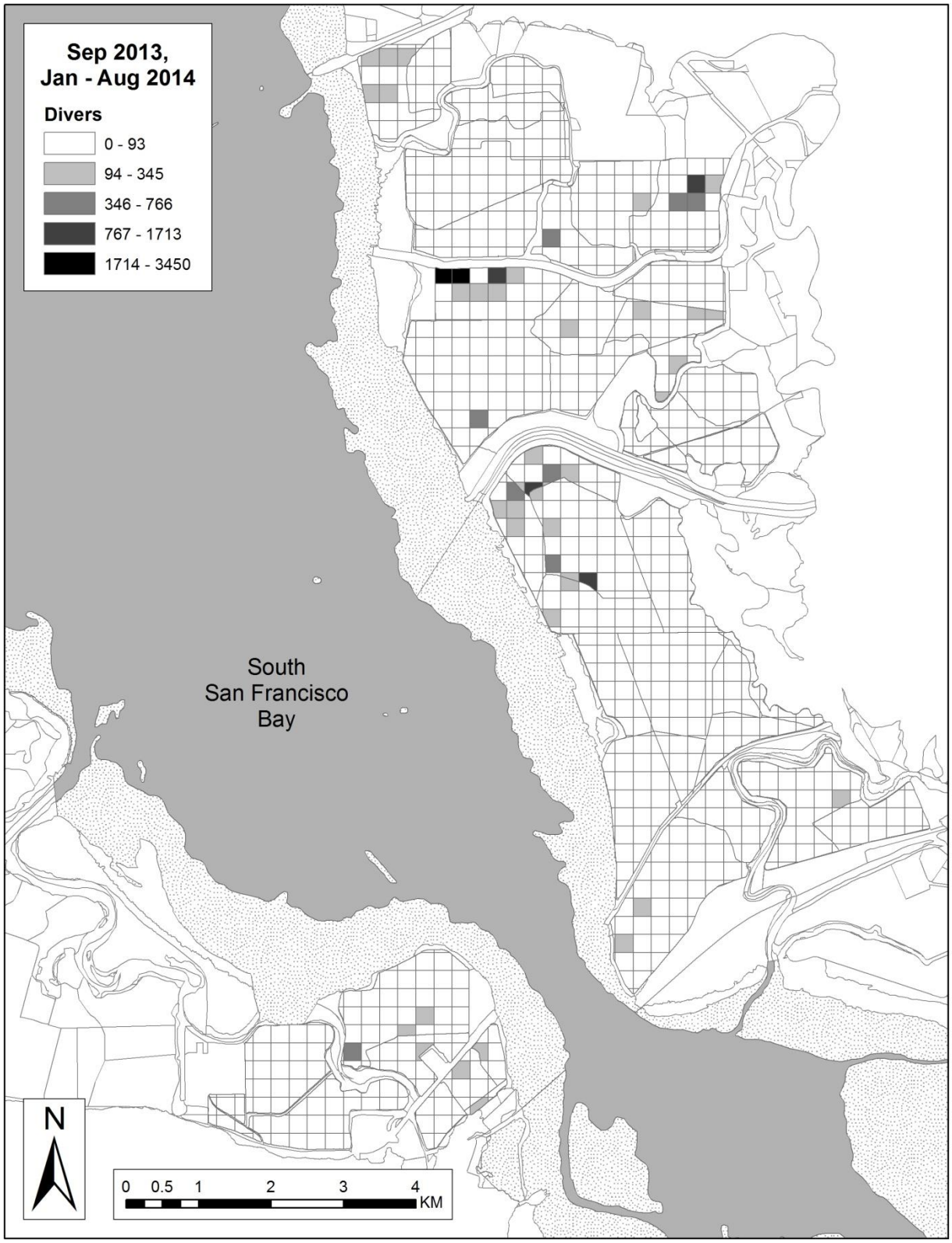


Figure 8. Diver abundance in each 250 $m^2$ pond grid in the Coyote Hills, Dumbarton, Eden Landing and Ravenswood pond complexes, South San Francisco Bay, California; Sept. 2013, Jan. -Aug. 2014.

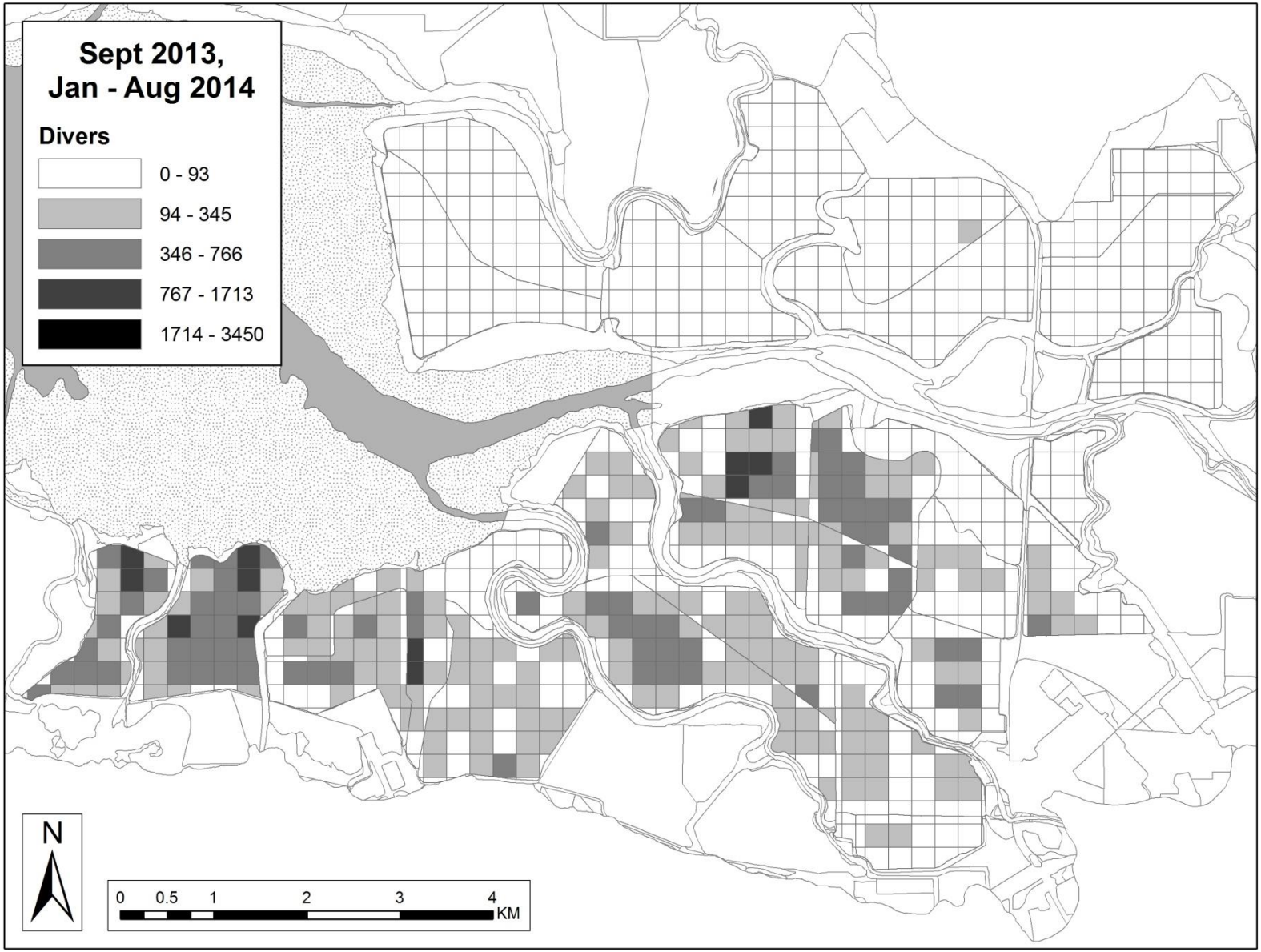


Figure 9. Diver abundance in each 250 $m^2$ pond grid in the Alviso and Mowry pond complexes, South San Francisco Bay, California; Sept. 2013, Jan. -Aug. 2014.

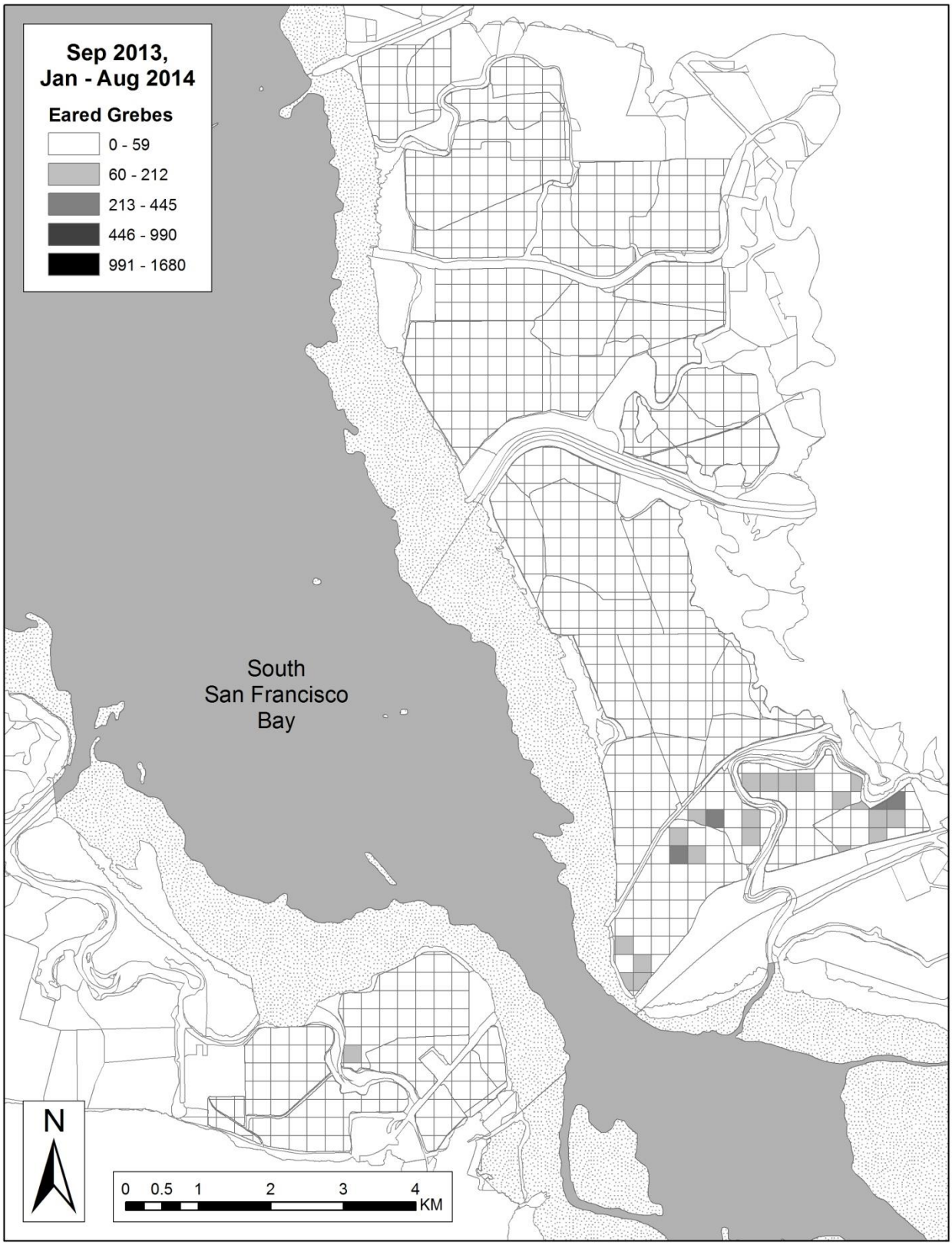


Figure 10. Eared Grebe abundance in each 250 $m^2$ pond grid in the Coyote Hills, Dumbarton, Eden Landing and Ravenswood pond complexes, South San Francisco Bay, California; Sept. 2013, Jan. -Aug. 2014.

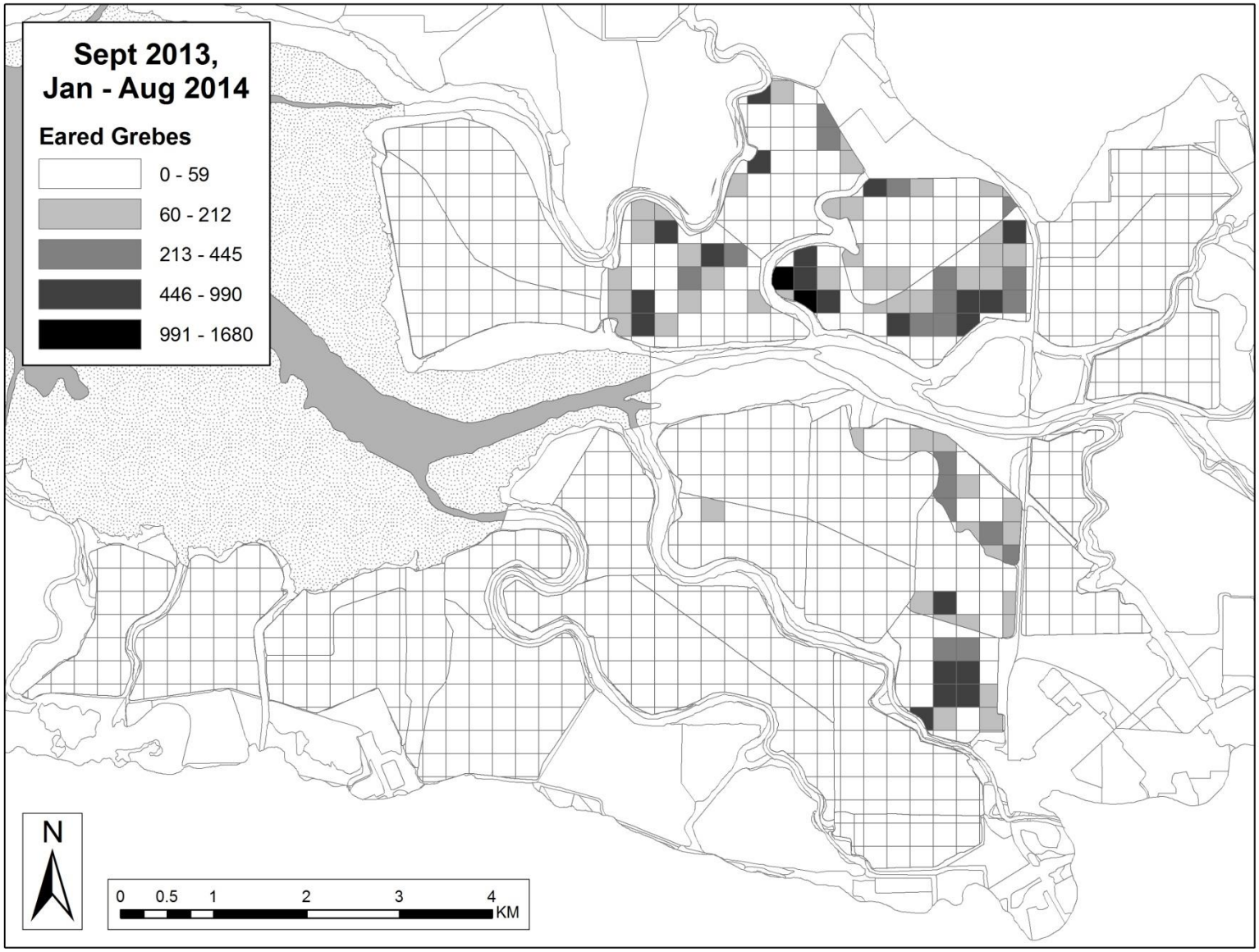


Figure 11. Eared Grebe abundance in each 250 $m^2$ pond grid in the Alviso and Mowry pond complexes, South San Francisco Bay, California; Sept. 2013, Jan. -Aug. 2014.

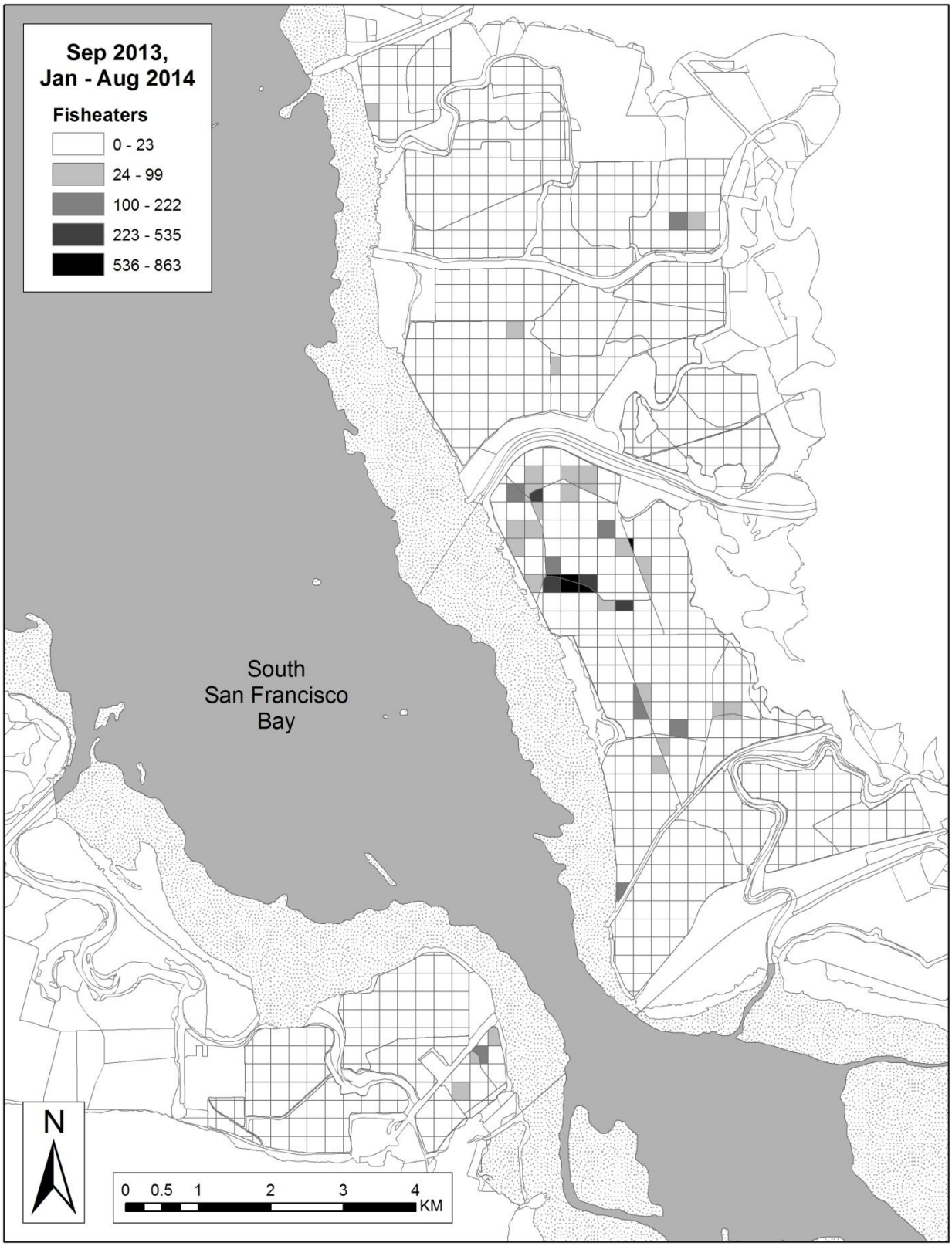


Figure 12. Fisheater abundance in each 250 $m^2$ pond grid in the Coyote Hills, Dumbarton, Eden Landing and Ravenswood pond complexes, South San Francisco Bay, California; Sept. 2013, Jan. -Aug. 2014.

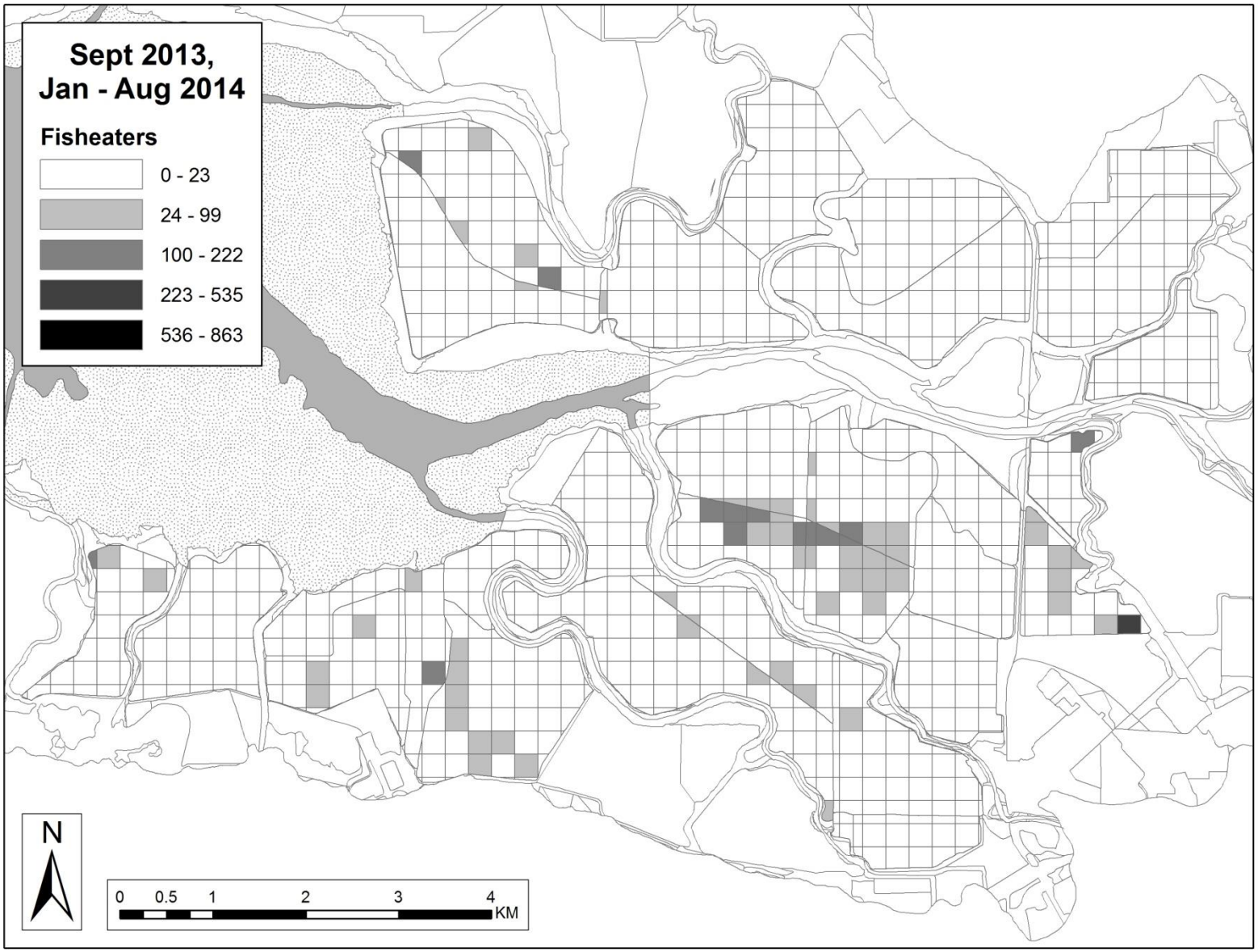


Figure 13. Fisheater abundance in each 250 m2 pond grid in the Alviso and Mowry pond complexes, South San Francisco Bay, California; Sept. 2013, Jan. -Aug. 2014.

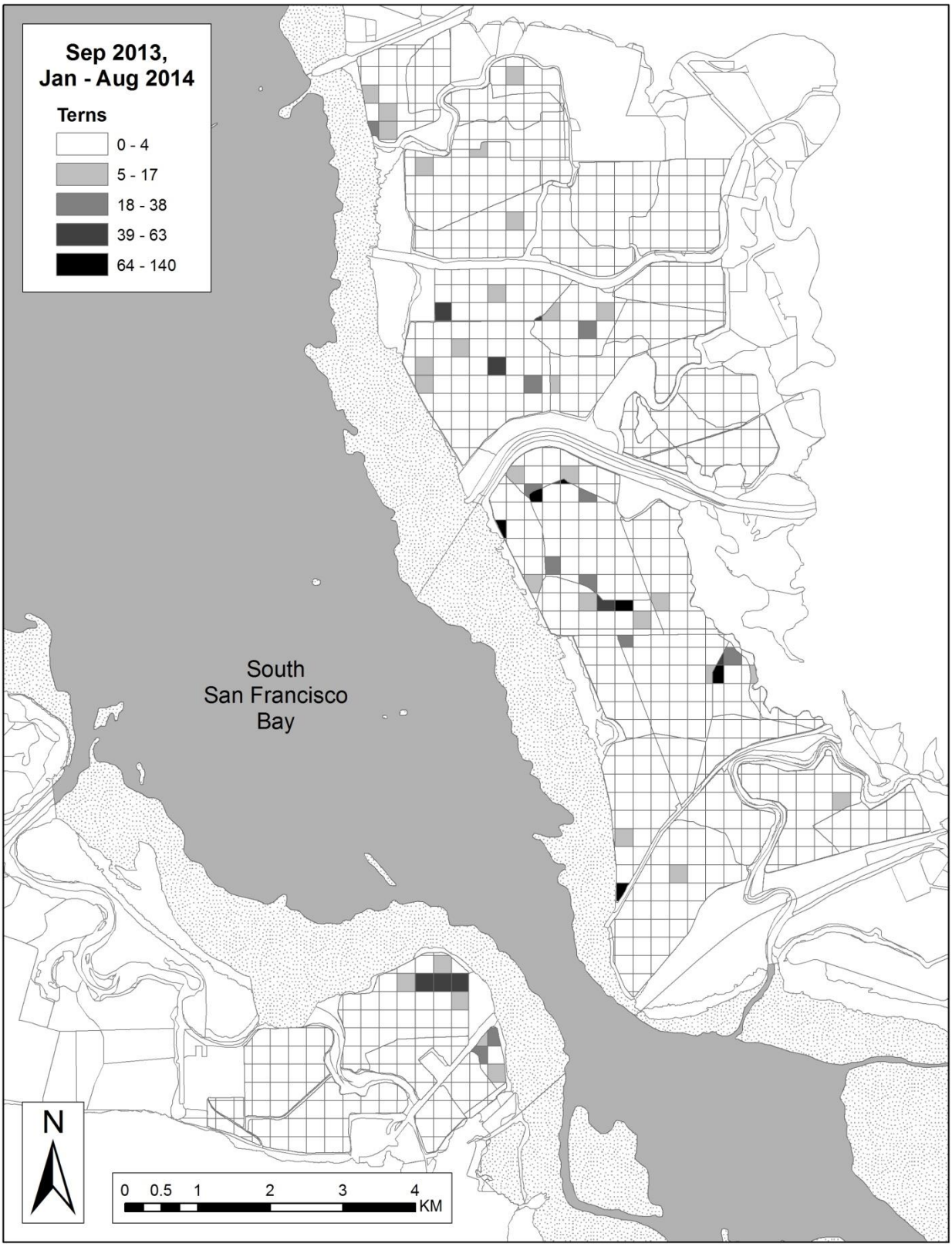


Figure 14. Tern abundance in each 250 $m^2$ pond grid in the Coyote Hills, Dumbarton, Eden Landing and Ravenswood pond complexes, South San Francisco Bay, California; Sept. 2013, Jan. -Aug. 2014.

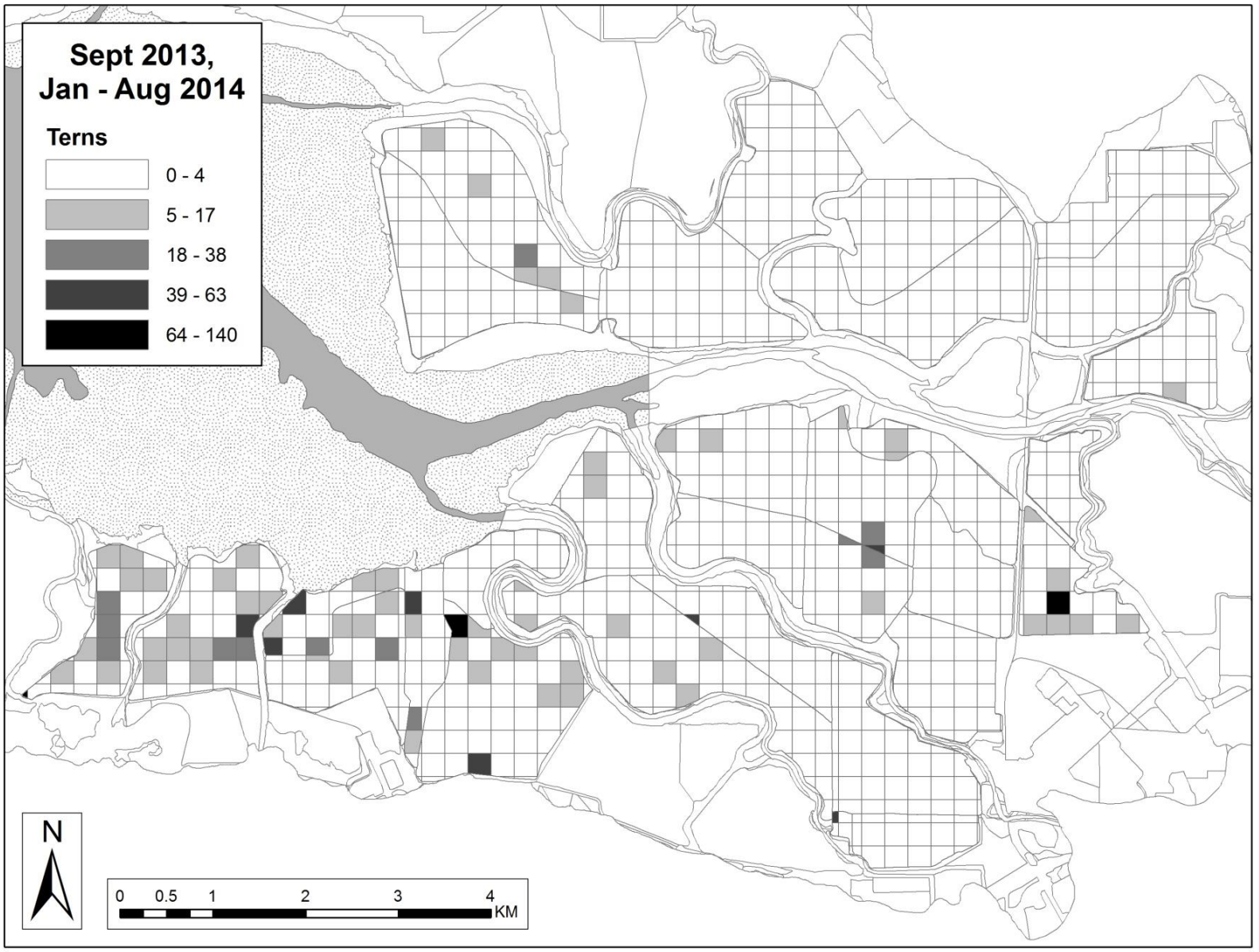


Figure 15. Tern abundance in each 250 $m^2$ pond grid in the Alviso and Mowry pond complexes, South San Francisco Bay, California; Sept. 2013, Jan. -Aug. 2014.

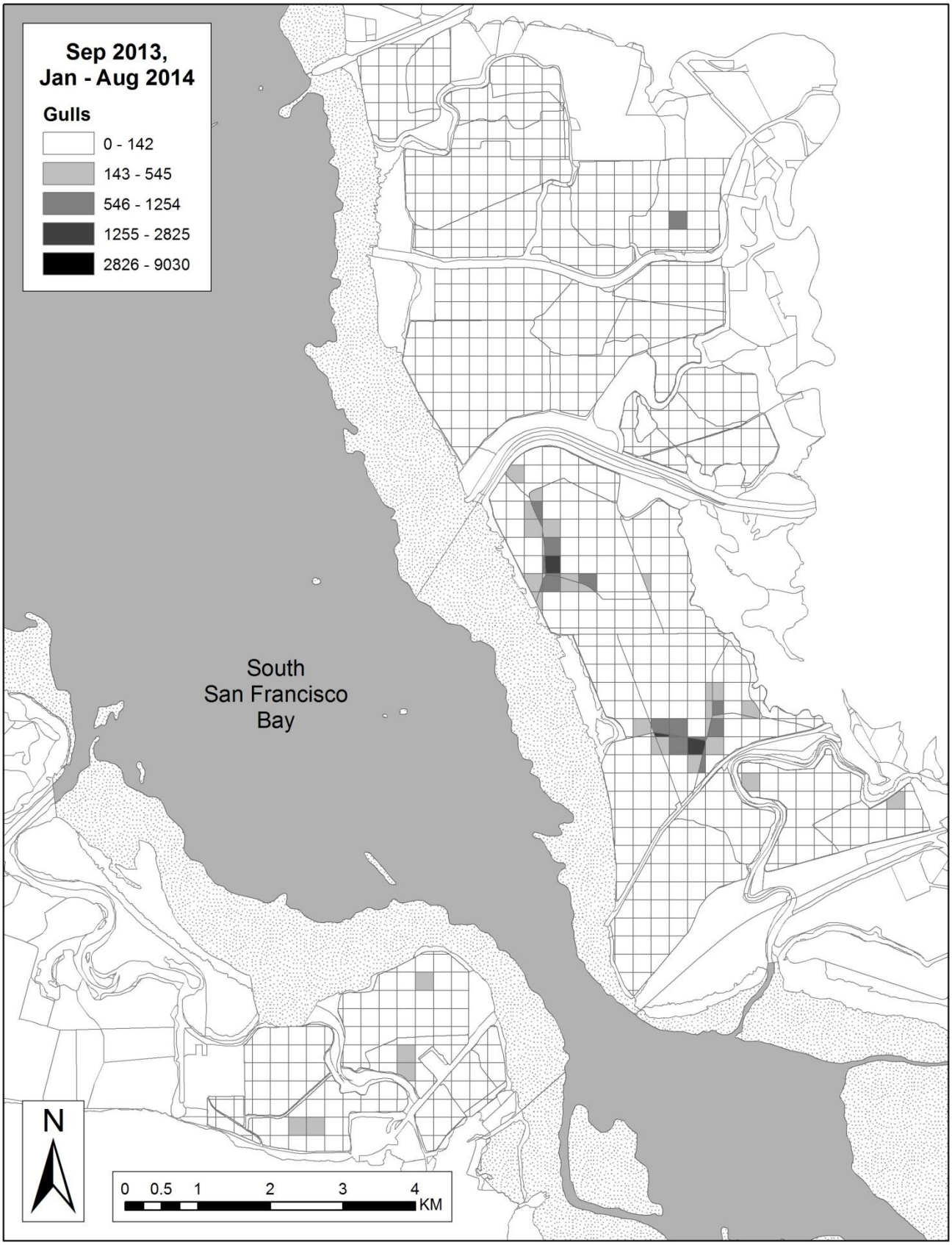


Figure 16. Gull abundance in each 250 $m^2$ pond grid in the Coyote Hills, Dumbarton, Eden Landing and Ravenswood pond complexes, South San Francisco Bay, California; Sept. 2013, Jan. -Aug. 2014.

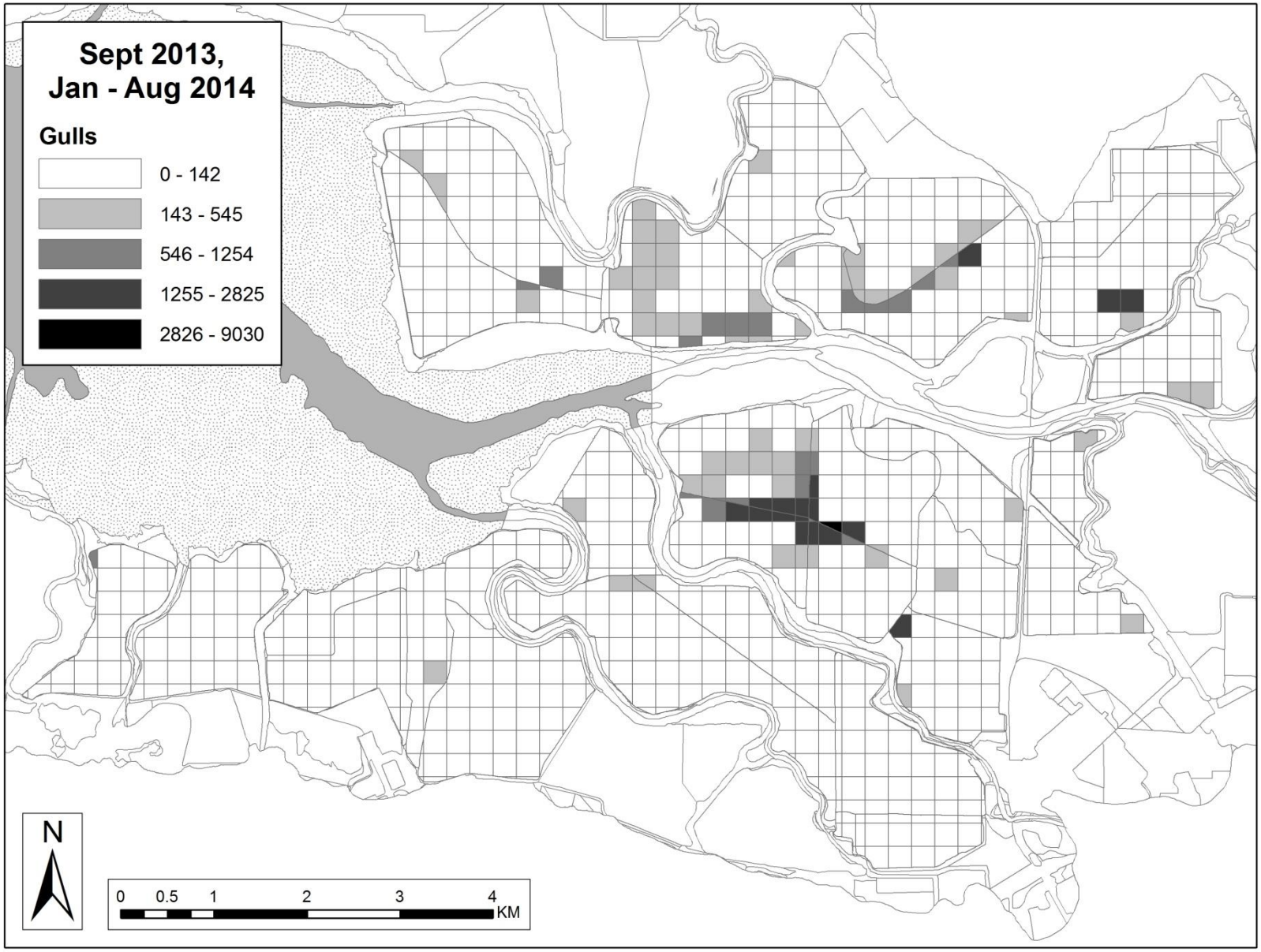


Figure 17. Gull abundance in each 250 $m^2$ pond grid in the Alviso and Mowry pond complexes, South San Francisco Bay, California; Sept. 2013, Jan. -Aug. 2014.

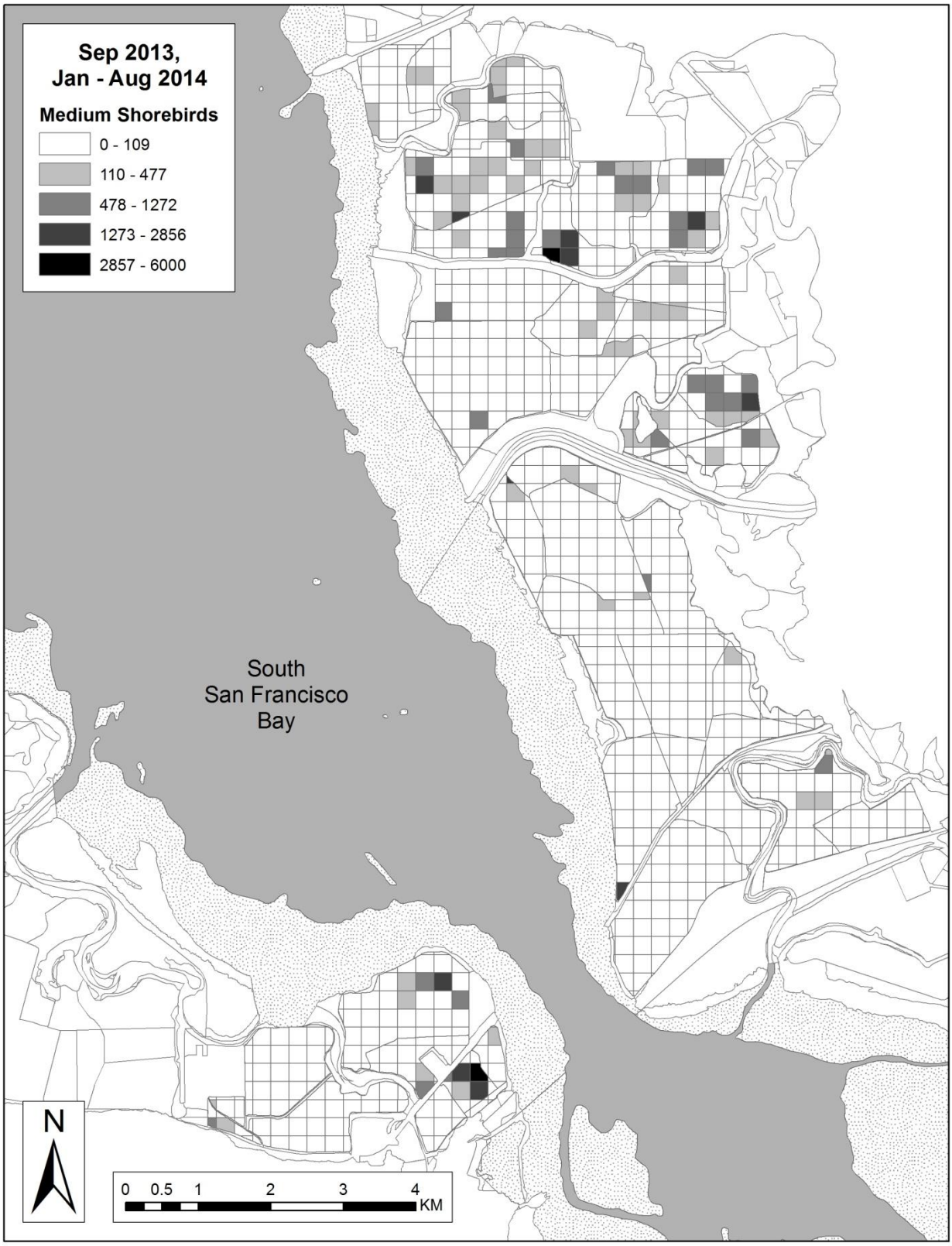


Figure 18. Medium shorebird abundance in each 250 $m^2$ pond grid in the Coyote Hills, Dumbarton, Eden Landing and Ravenswood pond complexes, South San Francisco Bay, California; Sept. 2013, Jan. -Aug. 2014.

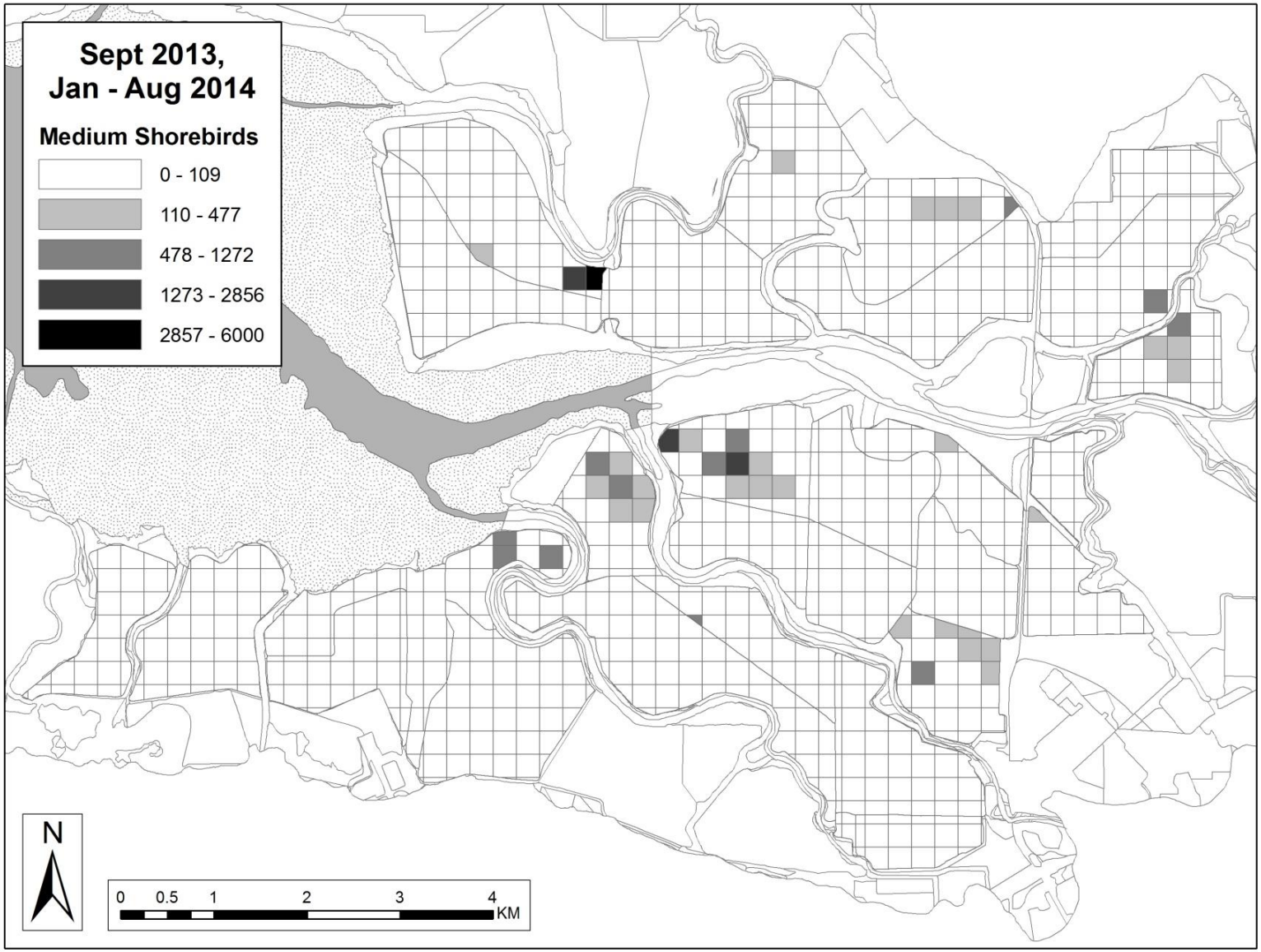


Figure 19. Medium shorebird abundance in each 250 $m^2$ pond grid in the Alviso and Mowry pond complexes, South San Francisco Bay, California; Sept. 2013, Jan. -Aug. 2014.

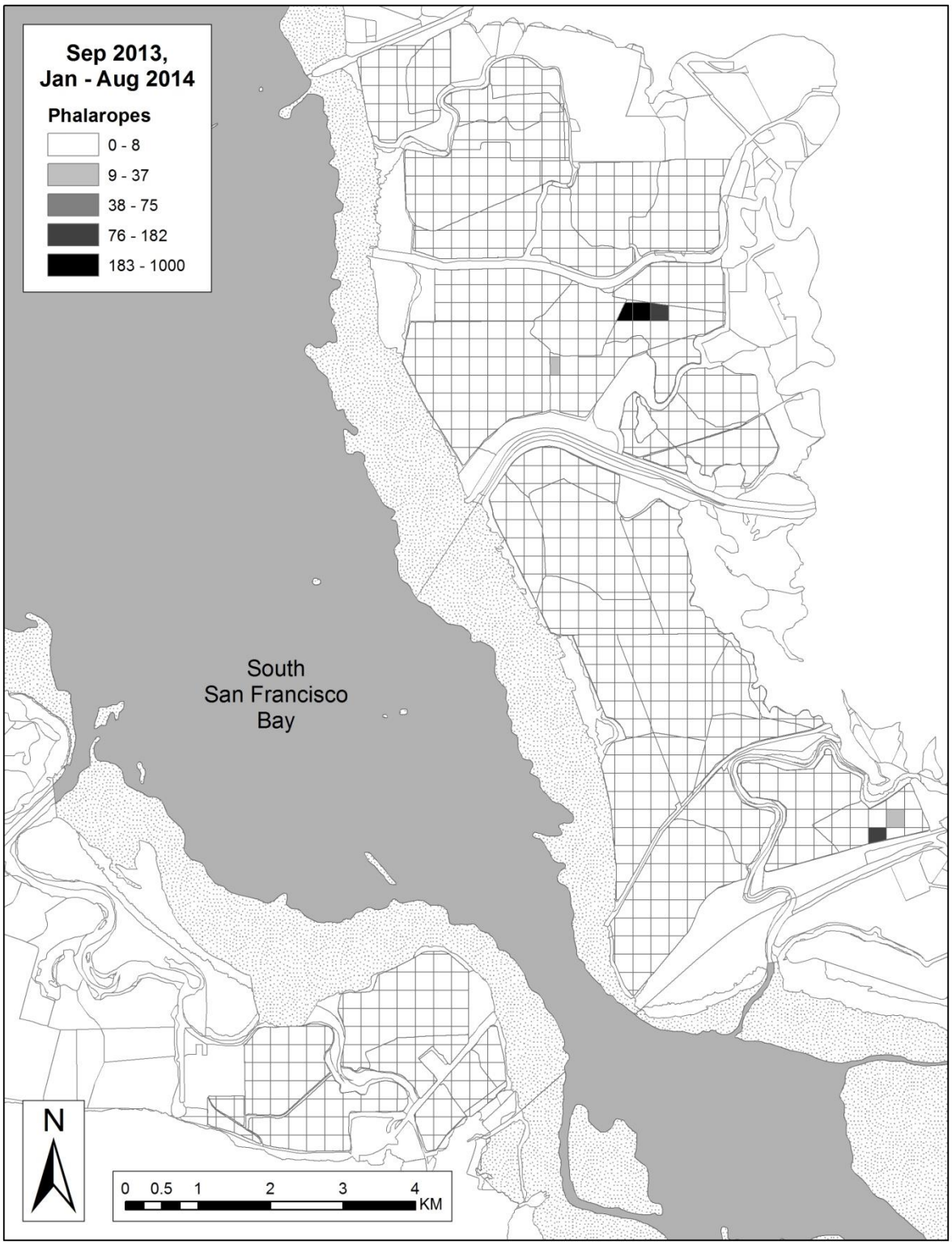


Figure 20. Phalarope abundance in each 250 $m^2$ pond grid in the Coyote Hills, Dumbarton, Eden Landing and Ravenswood pond complexes, South San Francisco Bay, California; Sept. 2013, Jan. -Aug. 2014.

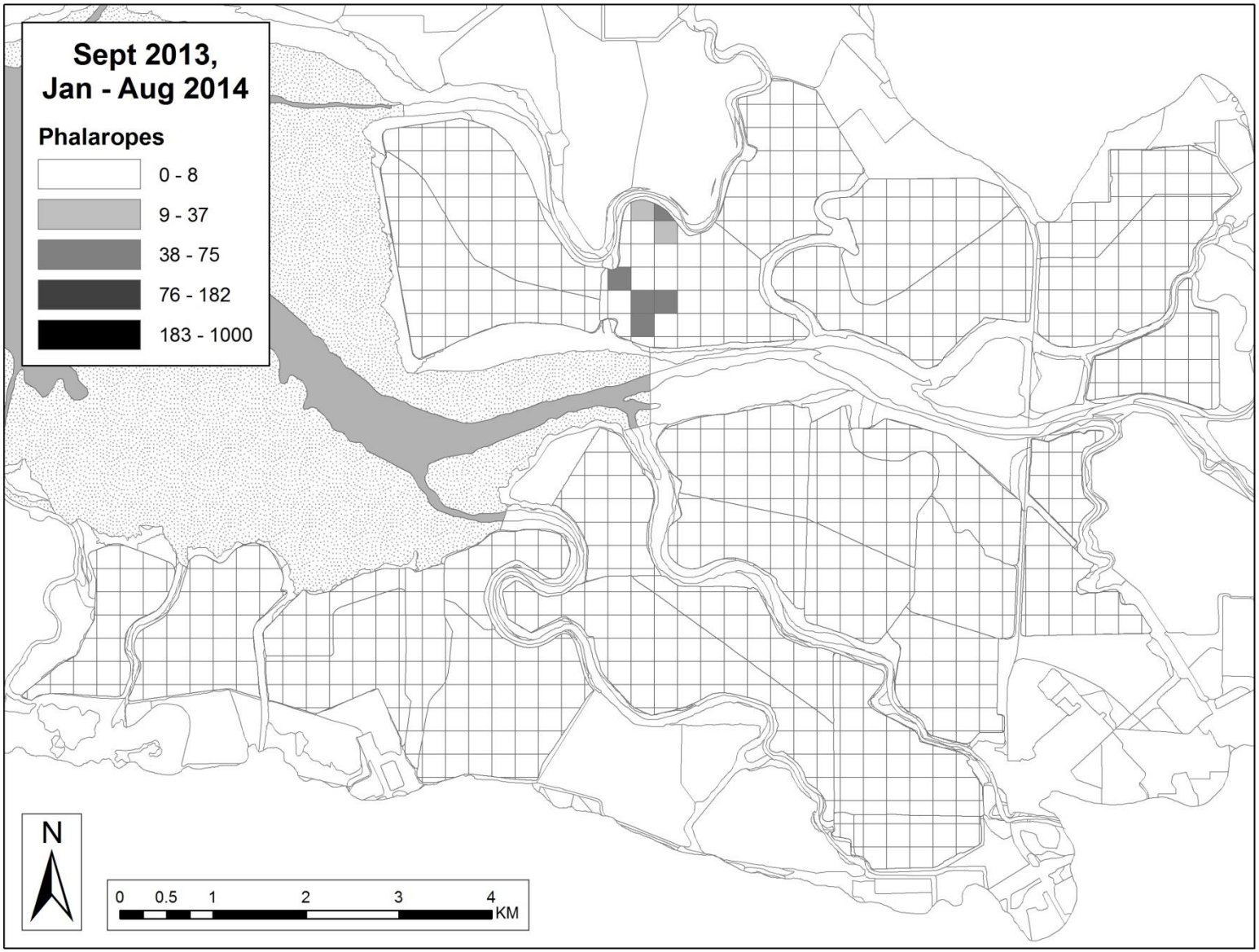


Figure 21. Phalarope abundance in each 250 $m^2$ pond grid in the Alviso and Mowry pond complexes, South San Francisco Bay, California; Sept. 2013, Jan. -Aug. 2014.

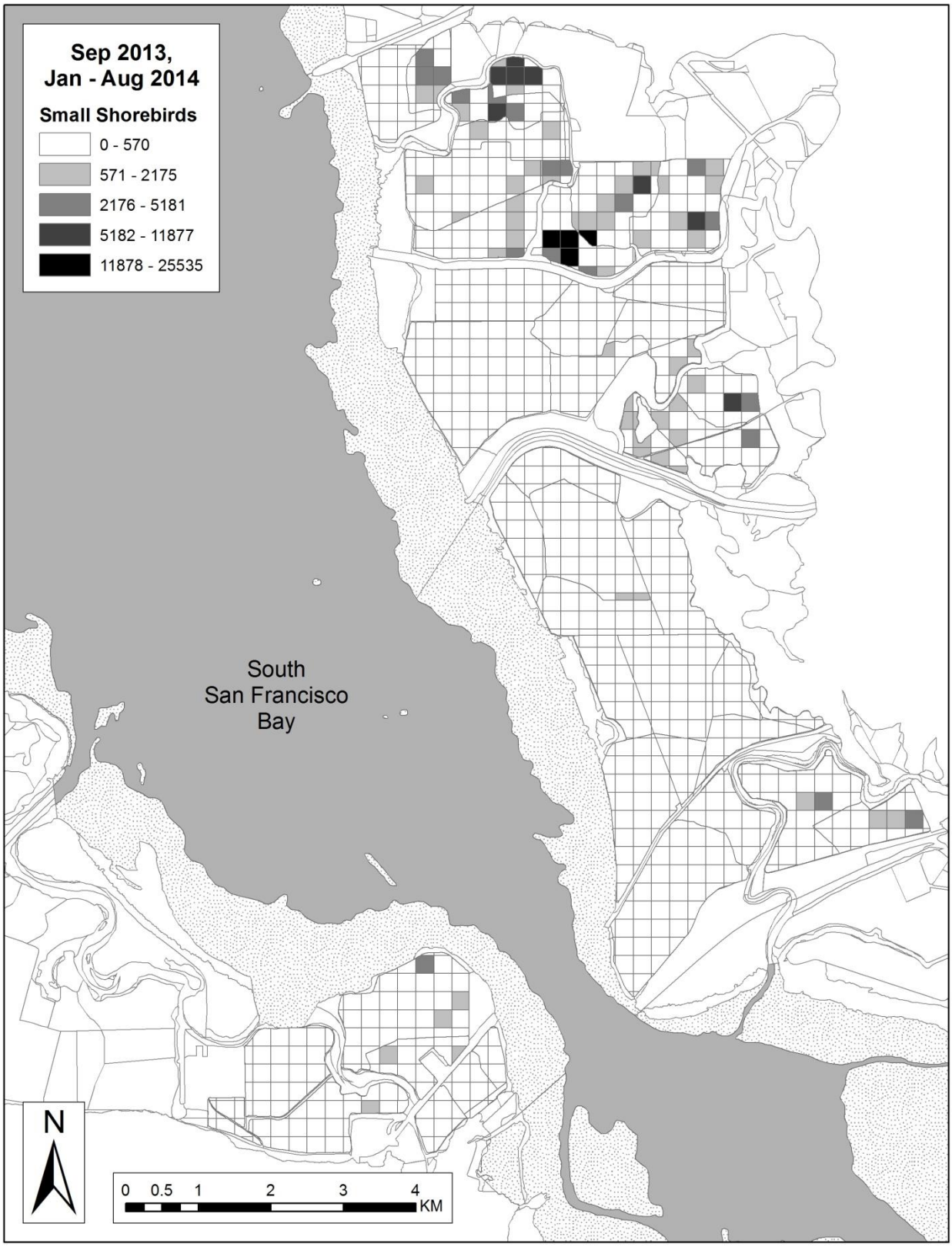


Figure 22. Small shorebird abundance in each 250 $m^2$ pond grid in the Coyote Hills, Dumbarton, Eden Landing and Ravenswood pond complexes, South San Francisco Bay, California; Sept. 2013, Jan. -Aug. 2014.

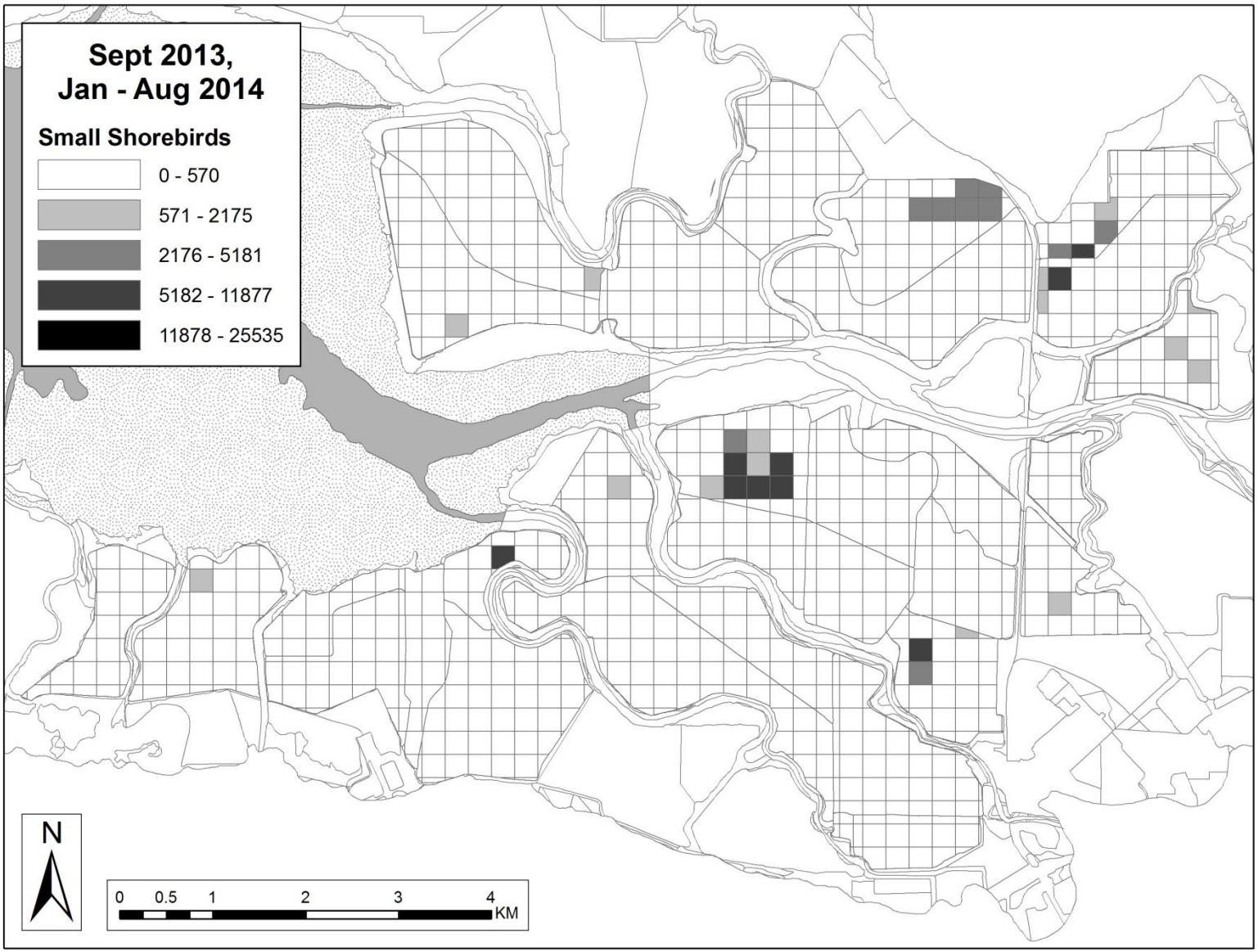


Figure 23. Small shorebird abundance in each 250 $m^2$ pond grid in the Alviso and Mowry pond complexes, South San Francisco Bay, California; Sept. 2013, Jan. -Aug. 2014.

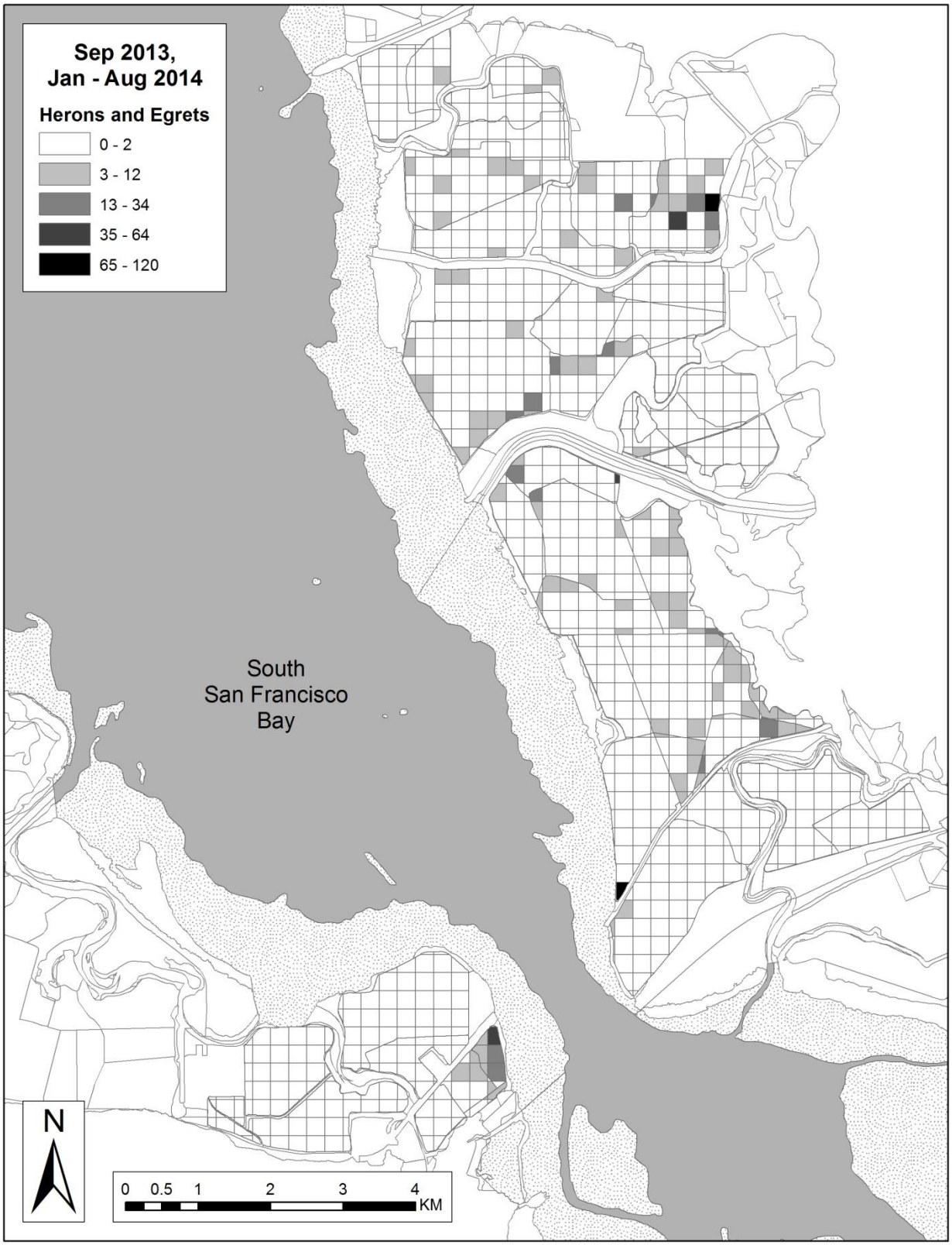


Figure 24. Heron and egret abundance in each 250 m2 pond grid in the Coyote Hills, Dumbarton, Eden Landing and Ravenswood pond complexes, South San Francisco Bay, California; Sept. 2013, Jan. -Aug. 2014.

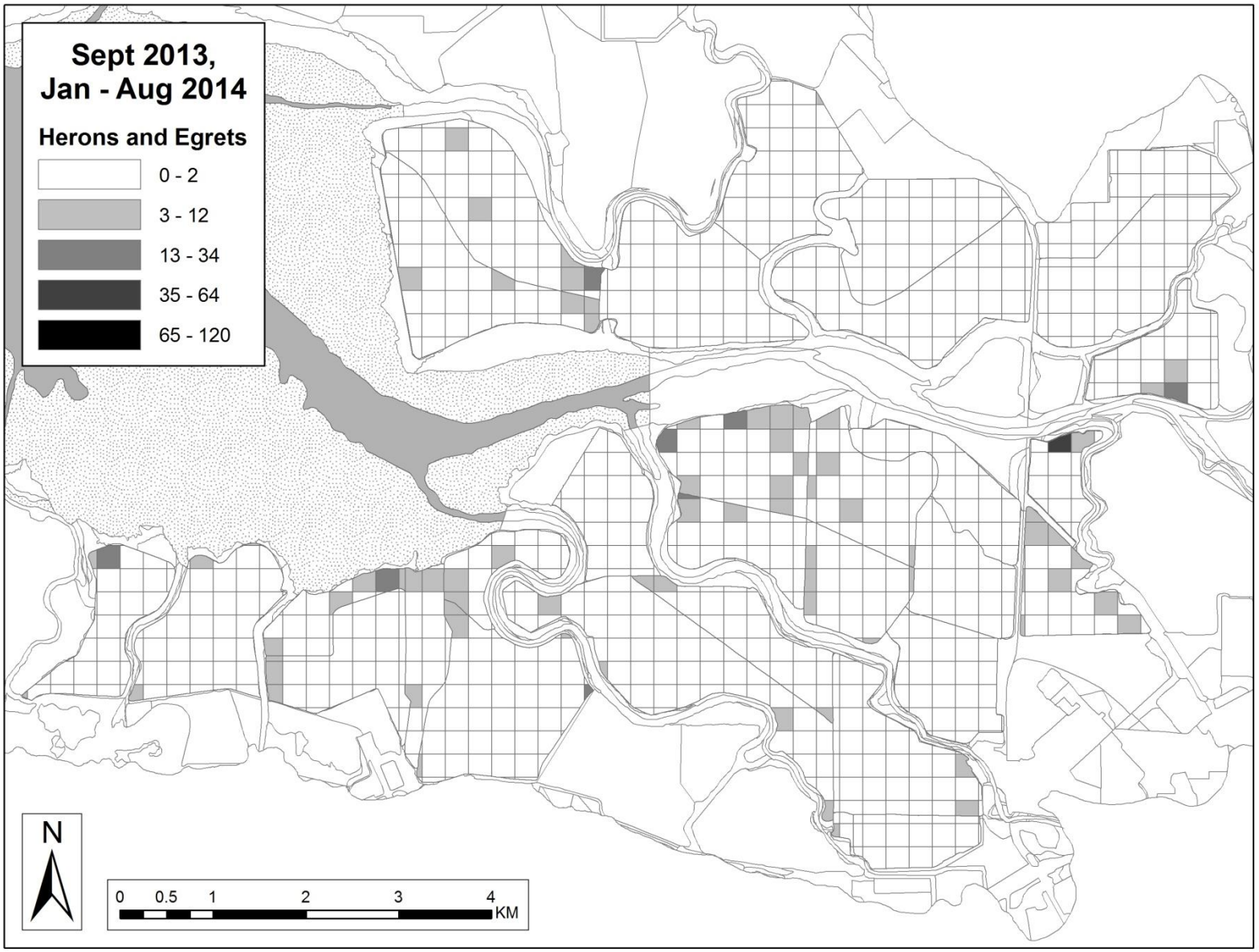


Figure 25. Heron and egret abundance in each 250 $m^2$ pond grid in the Alviso and Mowry pond complexes, South San Francisco Bay, California; Sept. 2013, Jan. -Aug. 2014

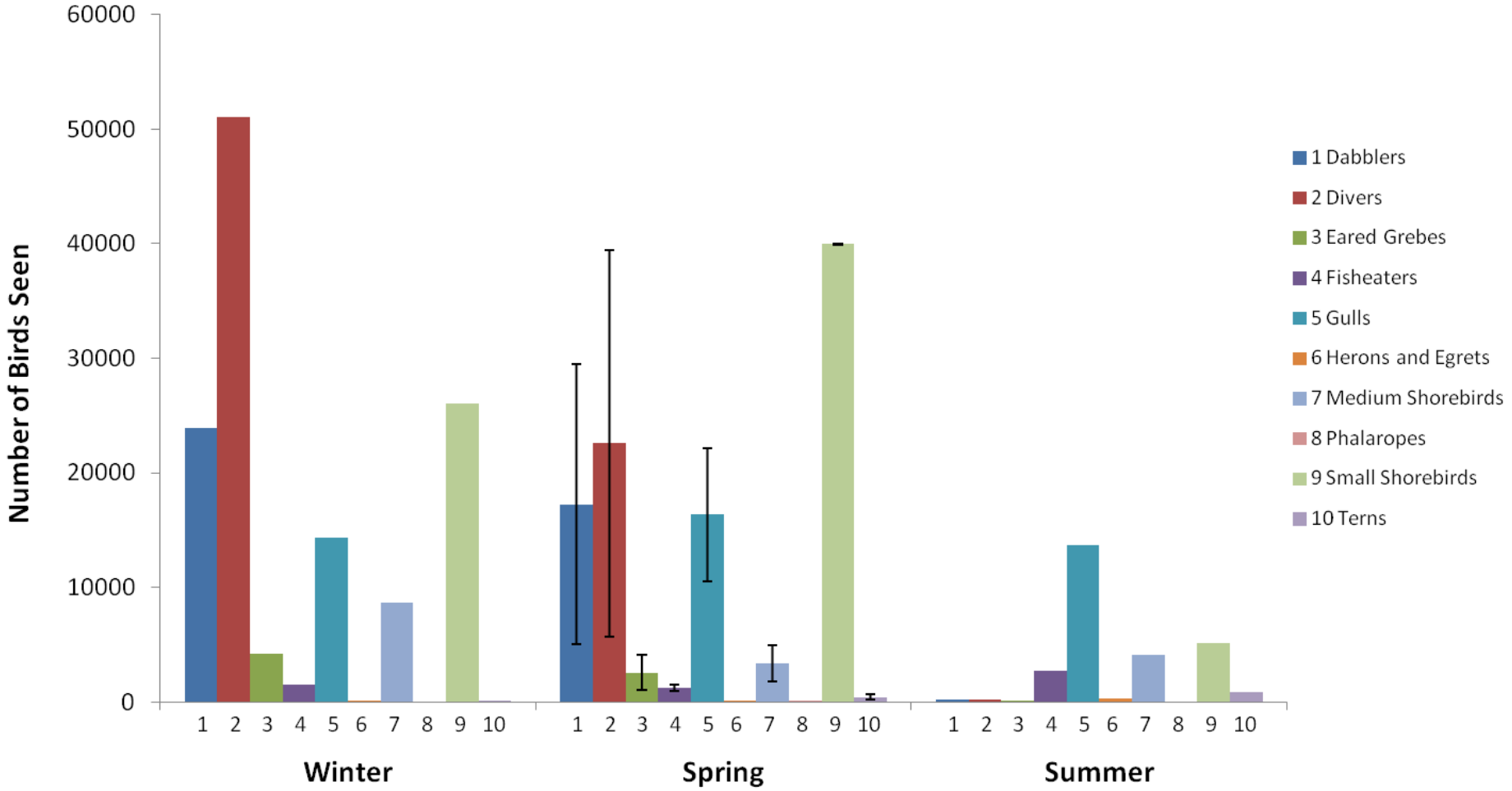


Figure 26. Avian abundance (mean number of bird sightings + 1 SE) by guild and by season at the Alviso complex, South San Francisco Bay, California; Jan.-Aug. 2014. Refer to Figure 1 for a complete description of survey schedule. Different scales used for each complex

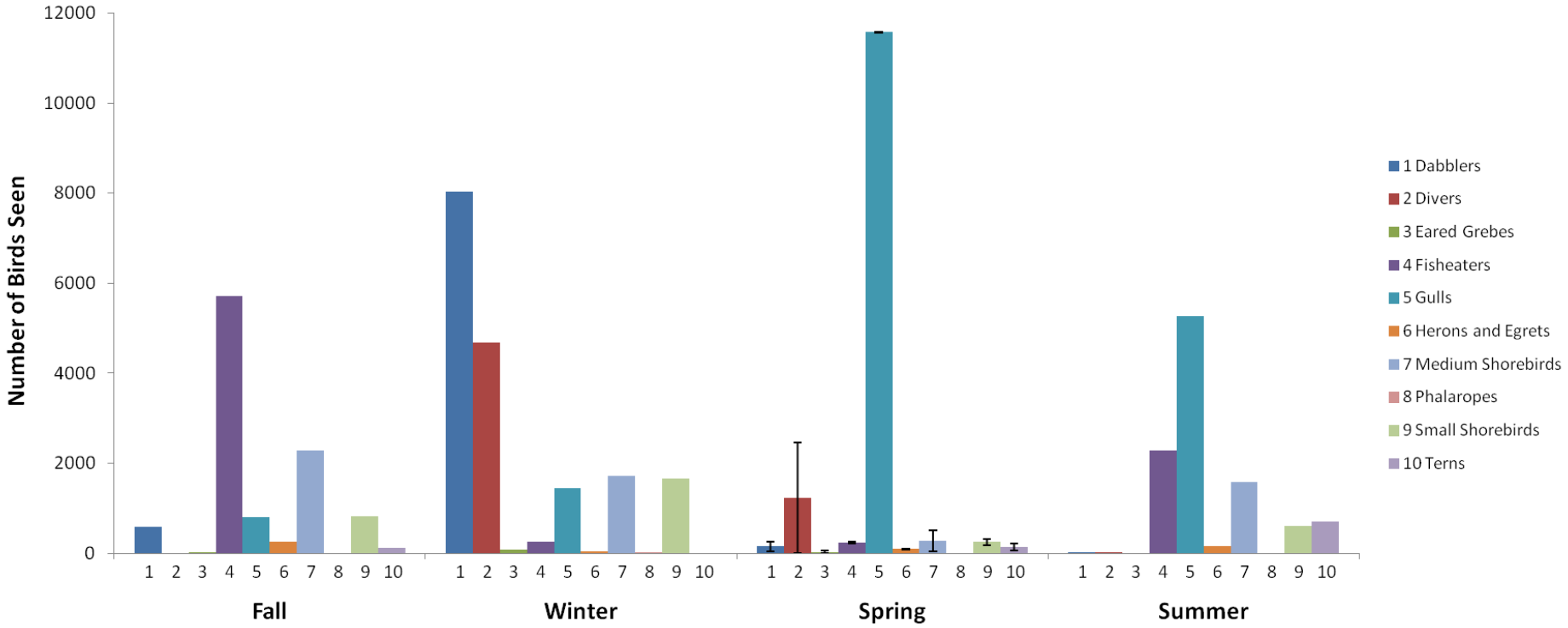


Figure 27. Avian abundance (mean number of bird sightings + 1 SE) by guild and by season at the Coyote Hills complex, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. Refer to Figure 1 for a complete description of survey schedule. Different scales used for each complex.

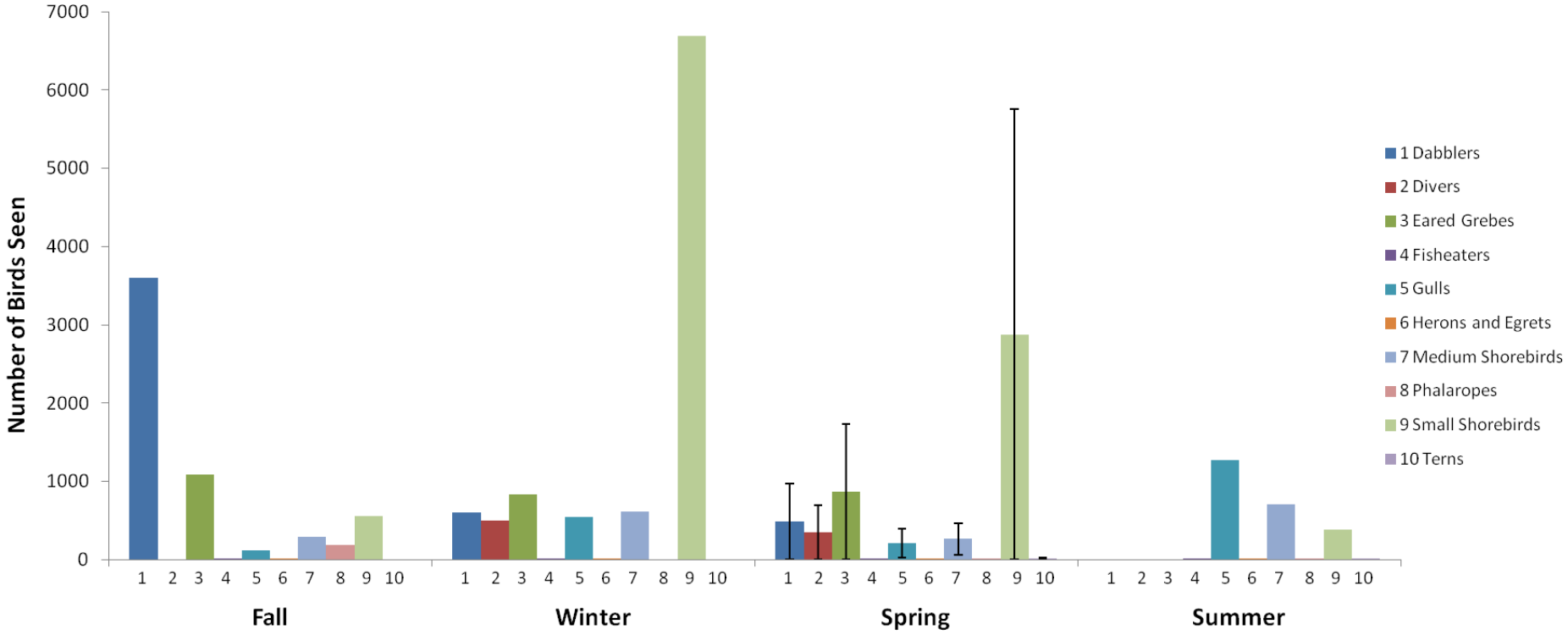


Figure 28. Avian abundance (mean number of bird sightings + 1 SE) by guild and by season at the Dumbarton complex, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. Refer to Figure 1 for a complete description of survey schedule. Different scales used for each complex.

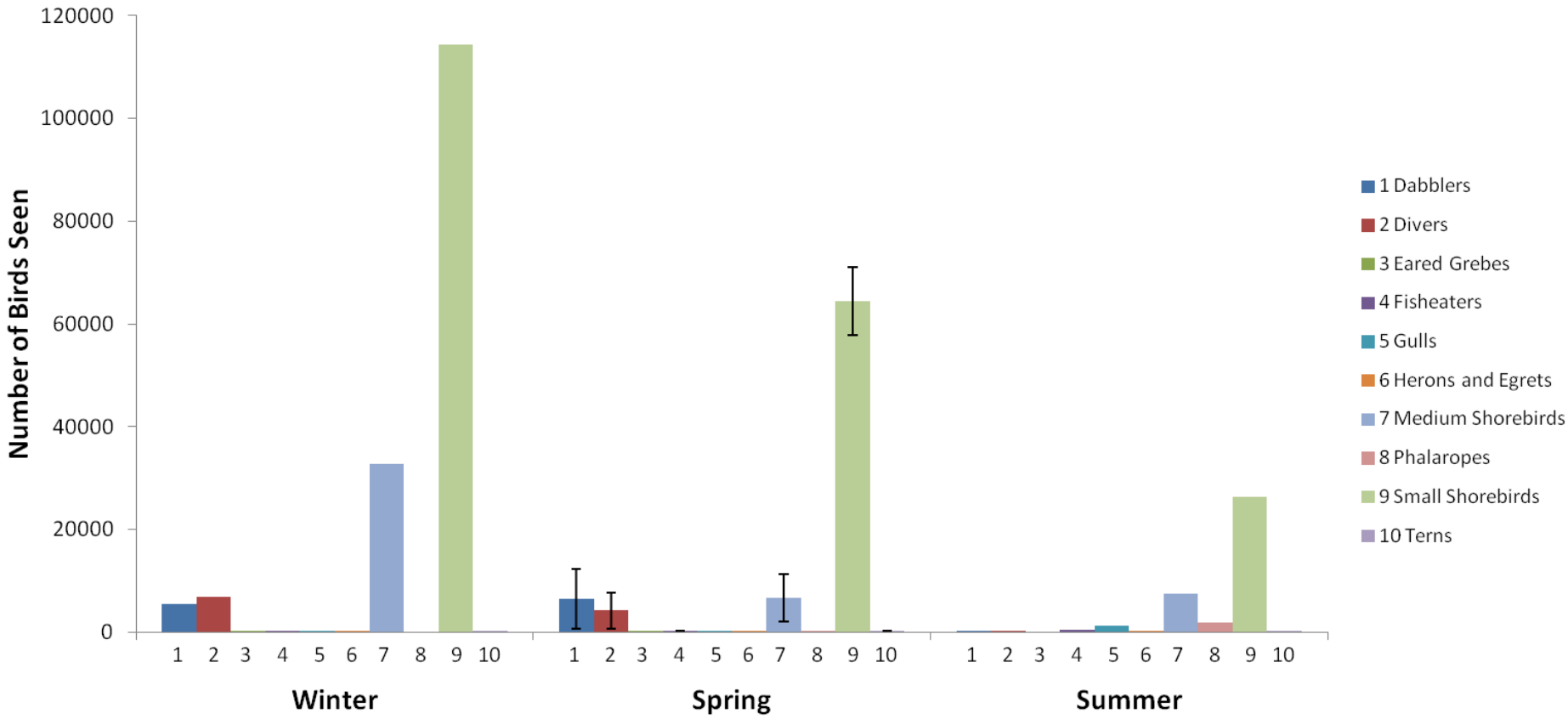


Figure 29. Avian abundance (mean number of bird sightings + 1 SE) by guild and by season at the Eden Landing complex, South San Francisco Bay, California; Jan.-Aug. 2014 Refer to Figure 1 for a complete description of survey schedule.Different scales used for each complex.

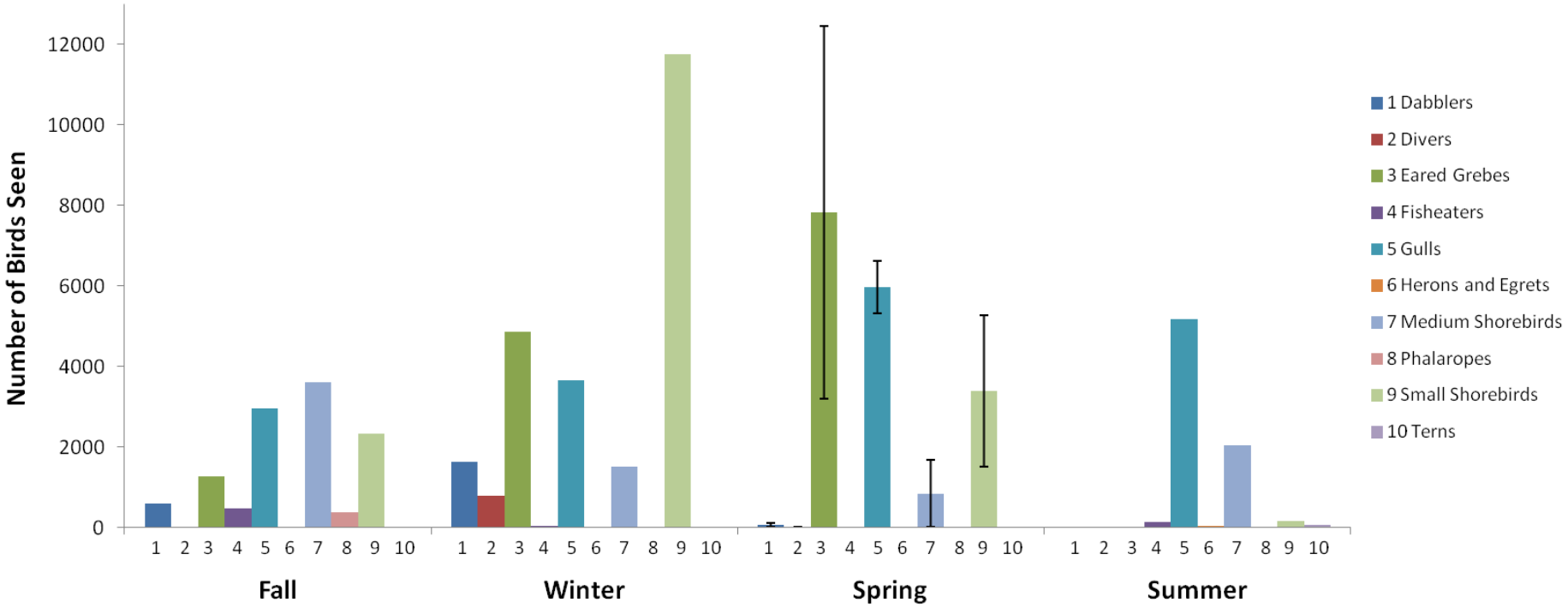


Figure 30. Avian abundance (mean number of bird sightings + 1 SE) by guild and by season at the Mowry complex, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. Refer to Figure 1 for a complete description of survey schedule. Different scales used for each complex.

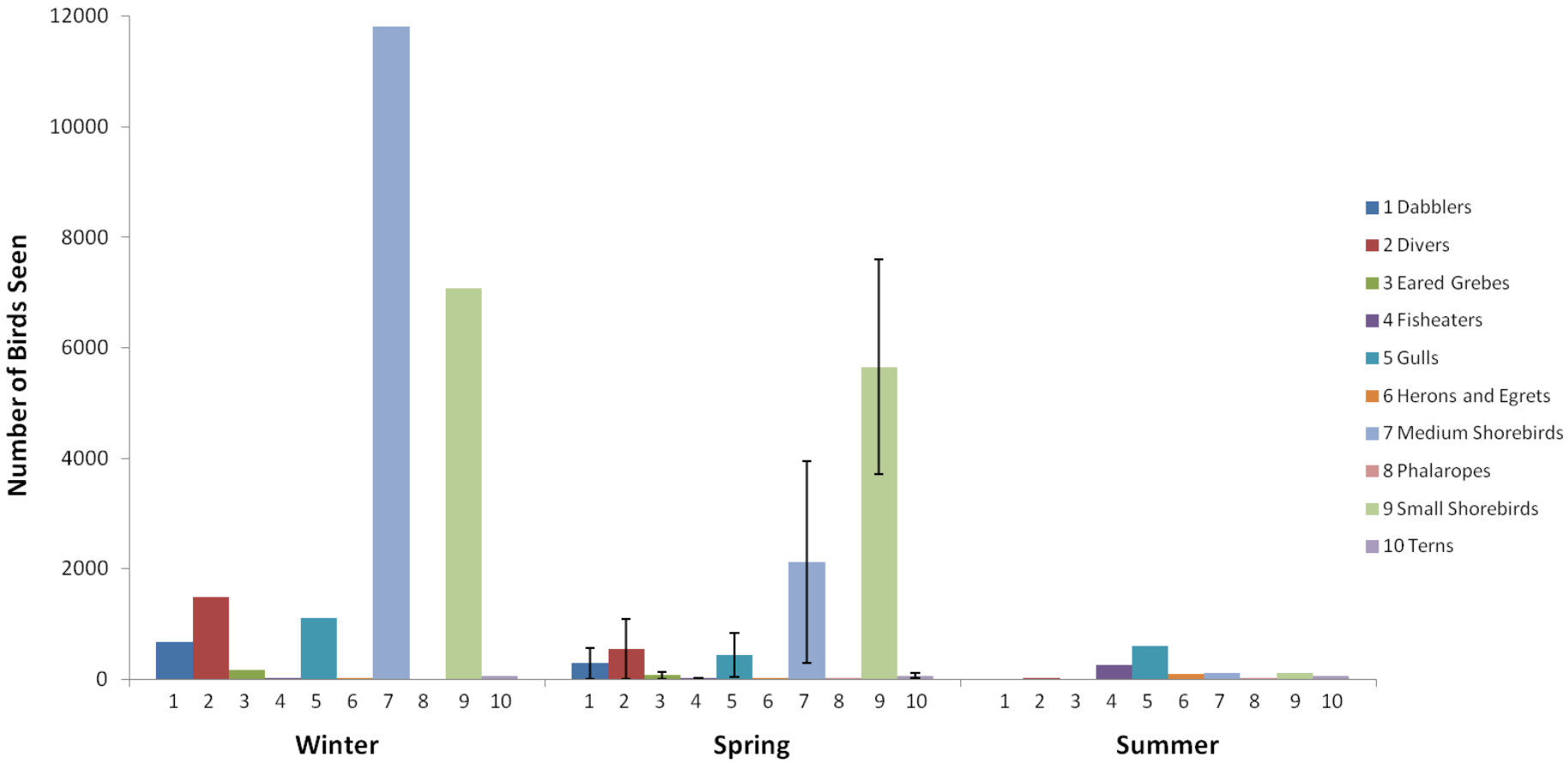


Figure 31. Avian abundance (mean number of bird sightings + 1 SE) by guild and by season at the Ravenswood complex, South San Francisco Bay, California; Jan.-Aug. 2014. Refer to Figure 1 for a complete description of survey schedule. Different scales used for each complex.

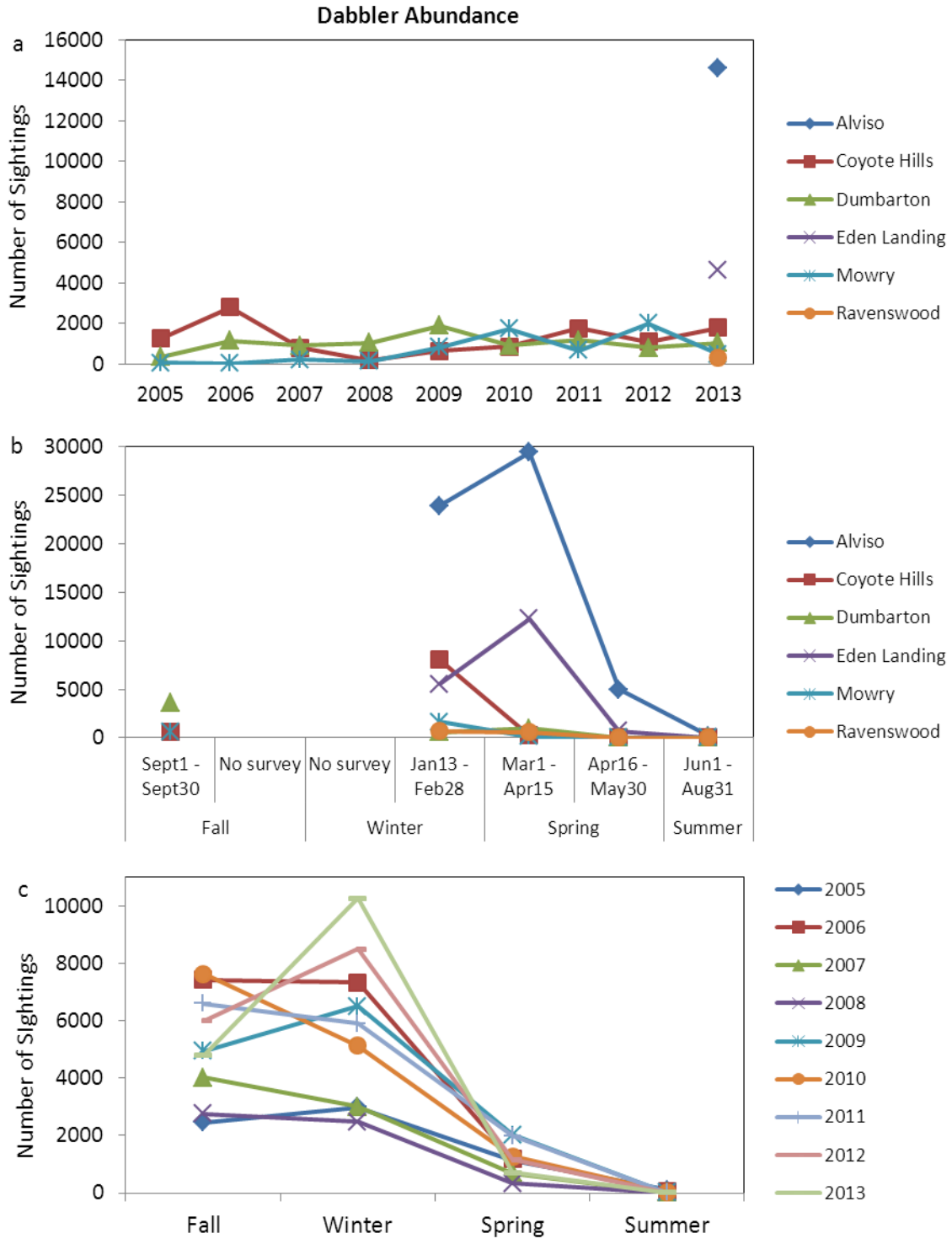


Figure 32. Dabbler abundance by (a) study year for each complex, (b) month for each complex during the current study year (Sept. 2013-Aug. 2014), and (c) month for each study year at all complexes in South San Francisco Bay, California, Sept. 2005-Aug. 2014. Years were defined as the year in which the study year started, with September as the first month. (i.e., '2005' is Sept. 2005-Aug. 2006).

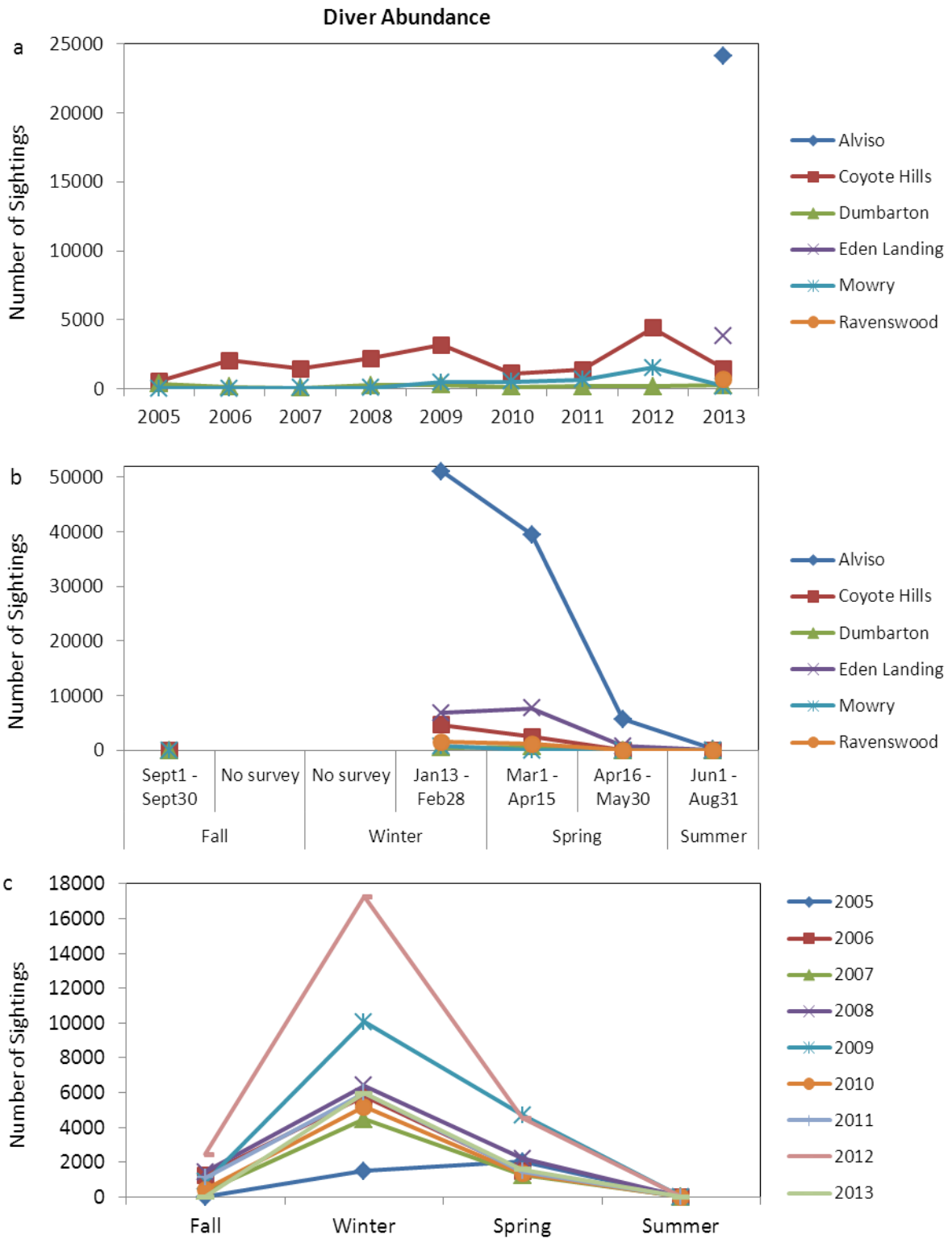


Figure 33. Diver abundance by (a) study year for each complex, (b) month for each complex during the current study year (Sept. 2013-Aug. 2014), and (c) month for each study year at all complexes South San Francisco Bay, California, Sept. 2005-Aug. 2014. Years were defined as the year in which the study year started, with September as the first month. (i.e., '2005' is Sept. 2005-Aug. 2006).

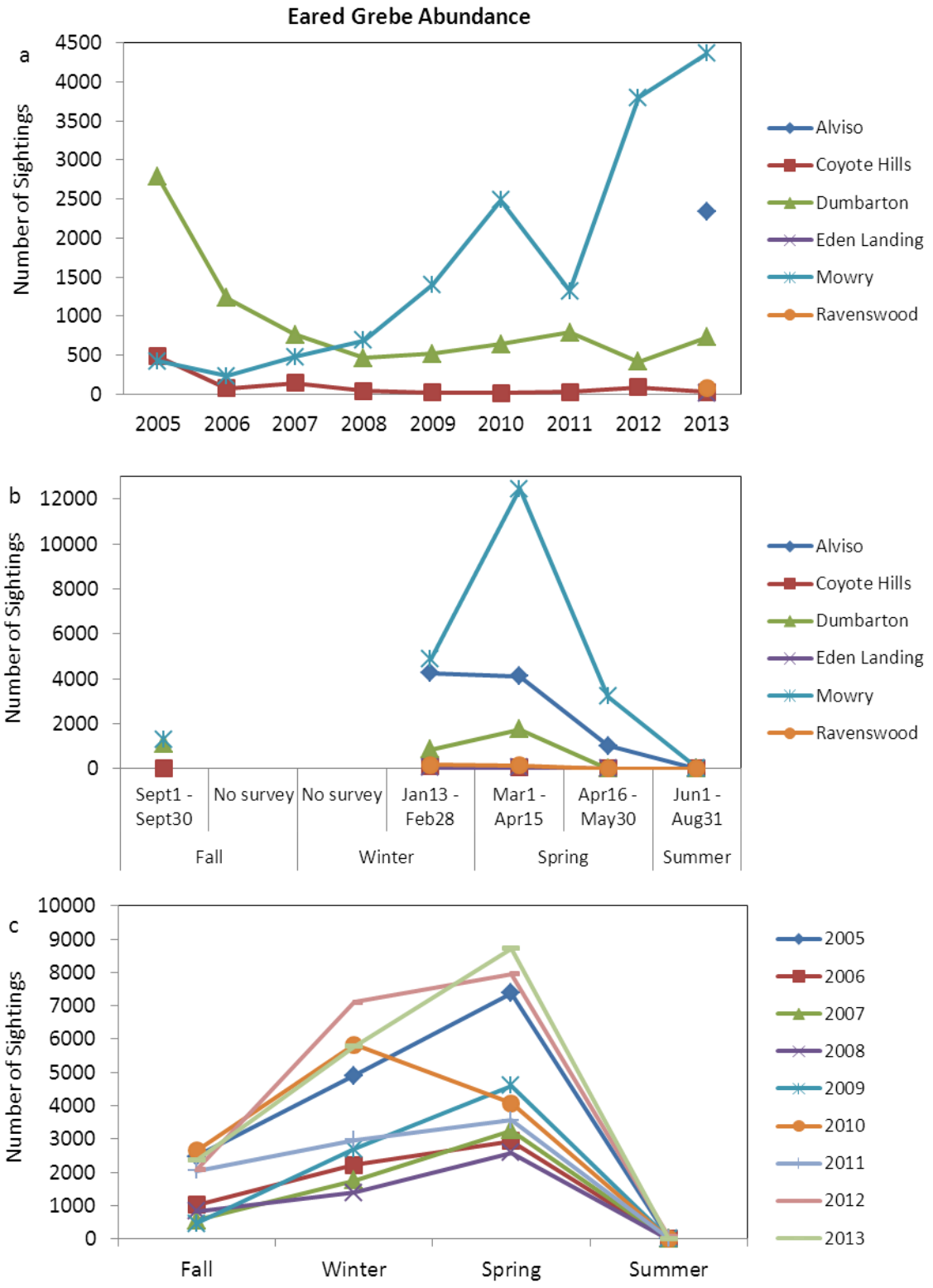


Figure 34. Eared Grebe abundance by (a) study year for each complex, (b) month for each complex during the current study year (Sept. 2013-Aug. 2014), and (c) month for each study year at all complexes in South San Francisco Bay, California, Sept. 2005-Aug. 2014. Years were defined as the year in which the study year started, with September as the first month. (i.e., '2005' is Sept. 2005-Aug. 2006).

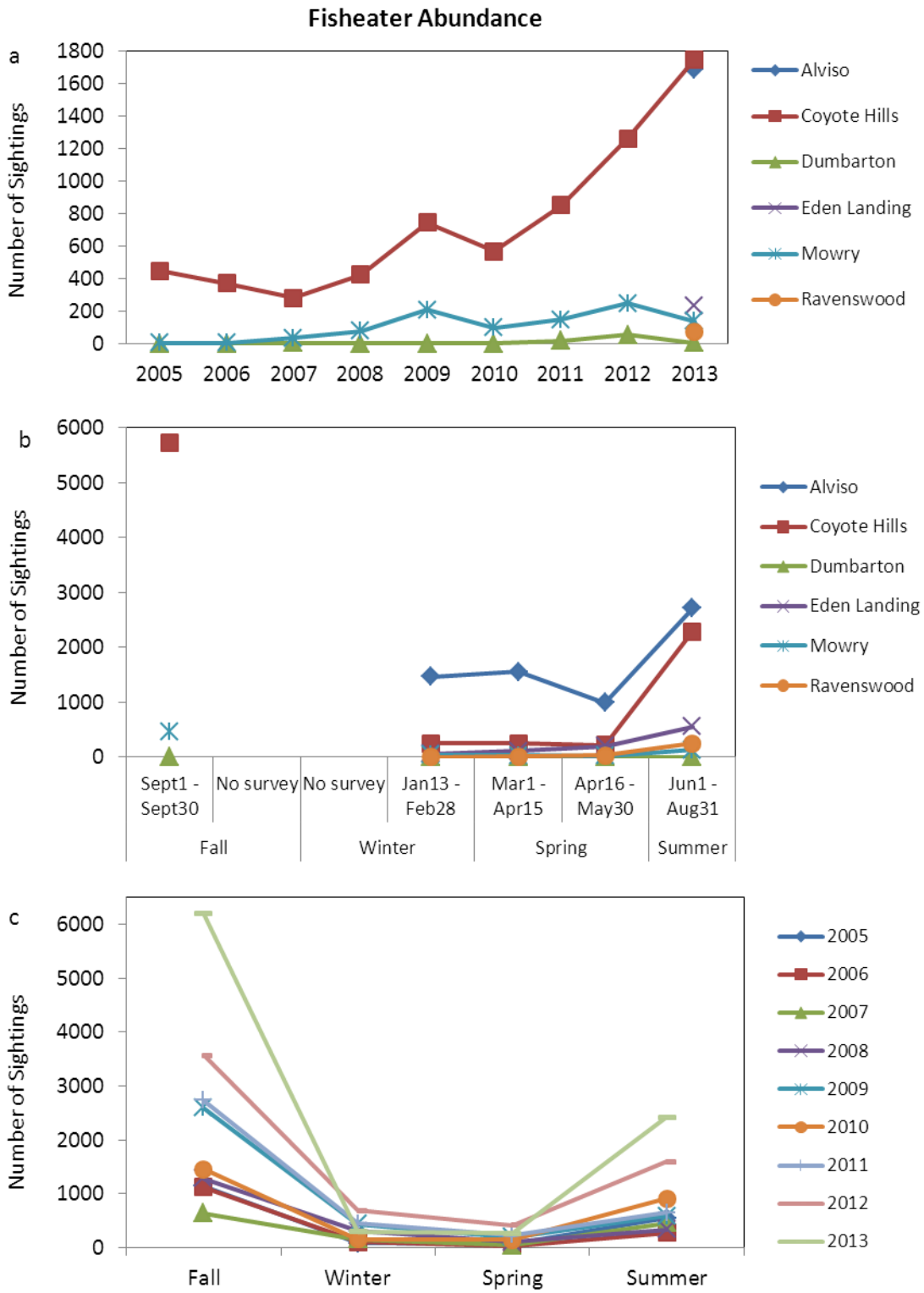


Figure 35. Fisheater abundance by (a) study year for each complex, (b) month for each complex during the current study year (Sept. 2013-Aug. 2014), and (c) month for each study year at all complexes in South San Francisco Bay, California, Sept. 2005-Aug. 2014. Years were defined as the year in which the study year started, with September as the first month. (i.e., '2005' is Sept. 2005-Aug. 2006).

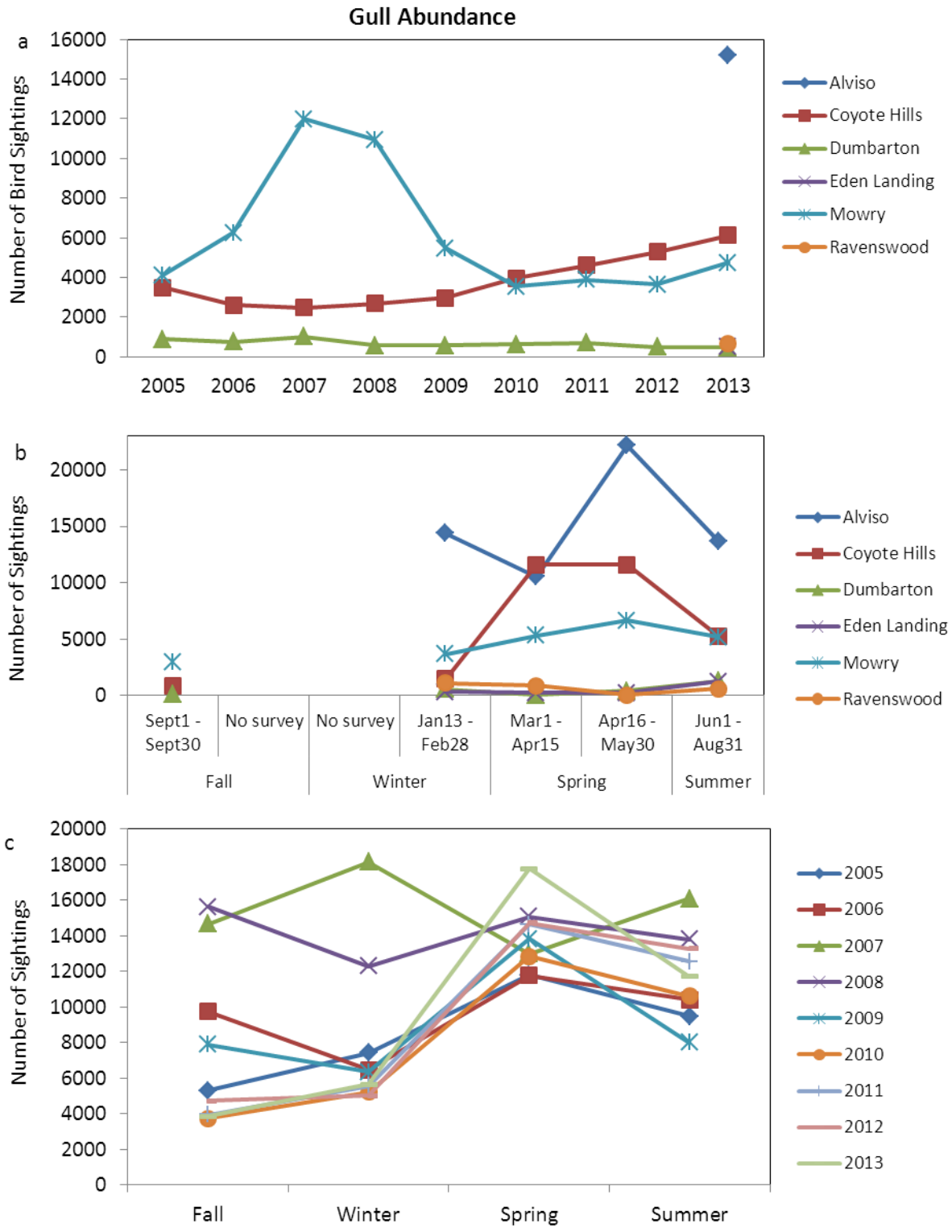


Figure 36. Gull abundance by (a) study year for each complex, (b) month for each complex during the current study year (Sept. 2013-Aug. 2014), and (c) month for each study year at all complexes in South San Francisco Bay, California, Sept. 2005-Aug. 2014. Years were defined as the year in which the study year started, with September as the first month. (i.e., '2005' is Sept. 2005-Aug. 2006).

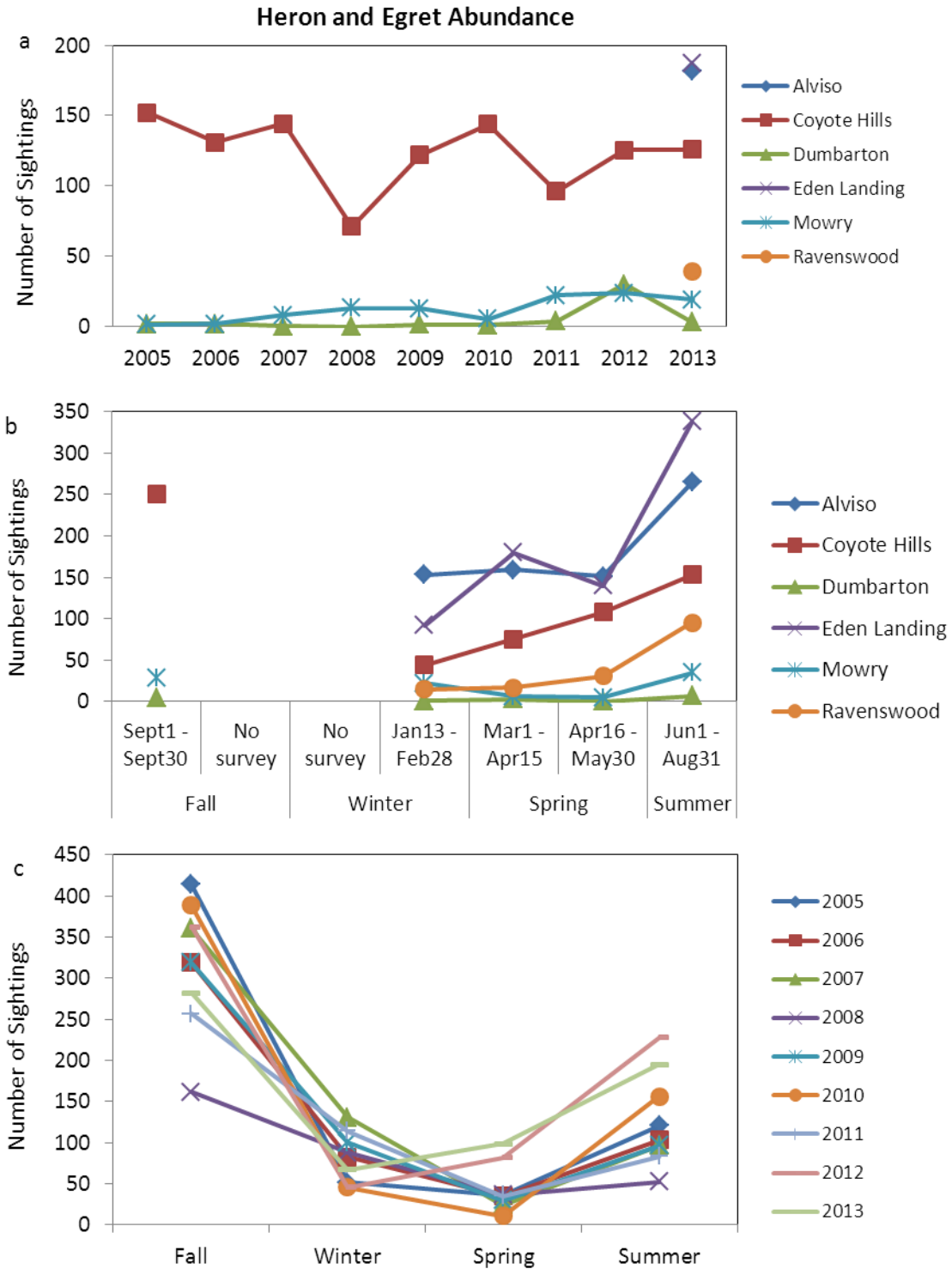


Figure 37. Heron and egret abundance by (a) study year for each complex, (b) month for each complex during the current study year (Sept. 2013-Aug. 2014), and (c) month for each study year at all complexes in South San Francisco Bay, California, Sept. 2005-Aug. 2014. Years were defined as the year in which the study year started, with September as the first month. (i.e., '2005' is Sept. 2005-Aug. 2006).

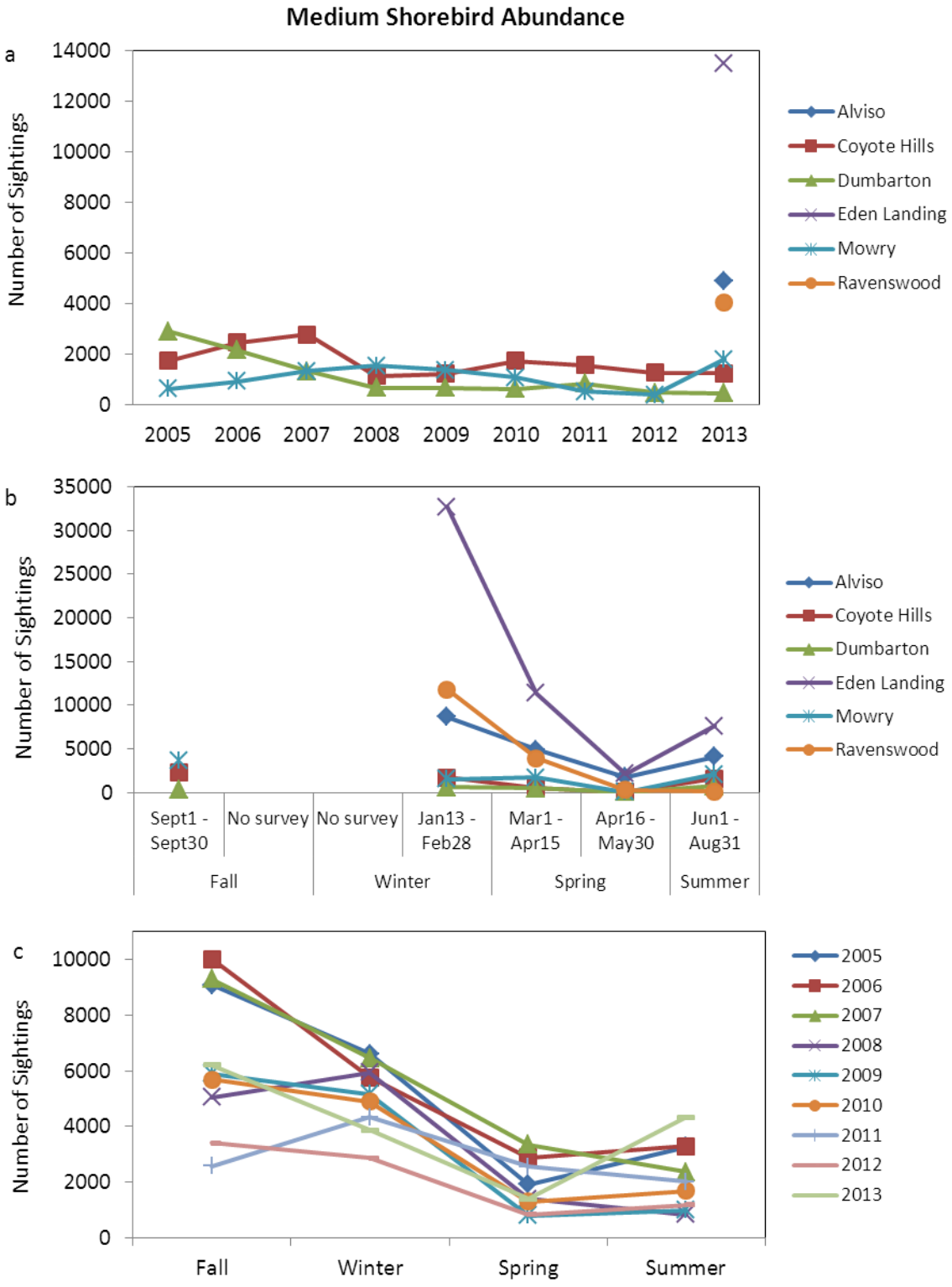


Figure 38. Medium Shorebird abundance by (a) study year for each complex, (b) month for each complex during the current study year (Sept. 2013-Aug. 2014), and (c) month for each study year at all complexes in South San Francisco Bay, California, Sept. 2005-Aug. 2014. Years were defined as the year in which the study year started, with September as the first month. (i.e., '2005' is Sept. 2005-Aug. 2006).

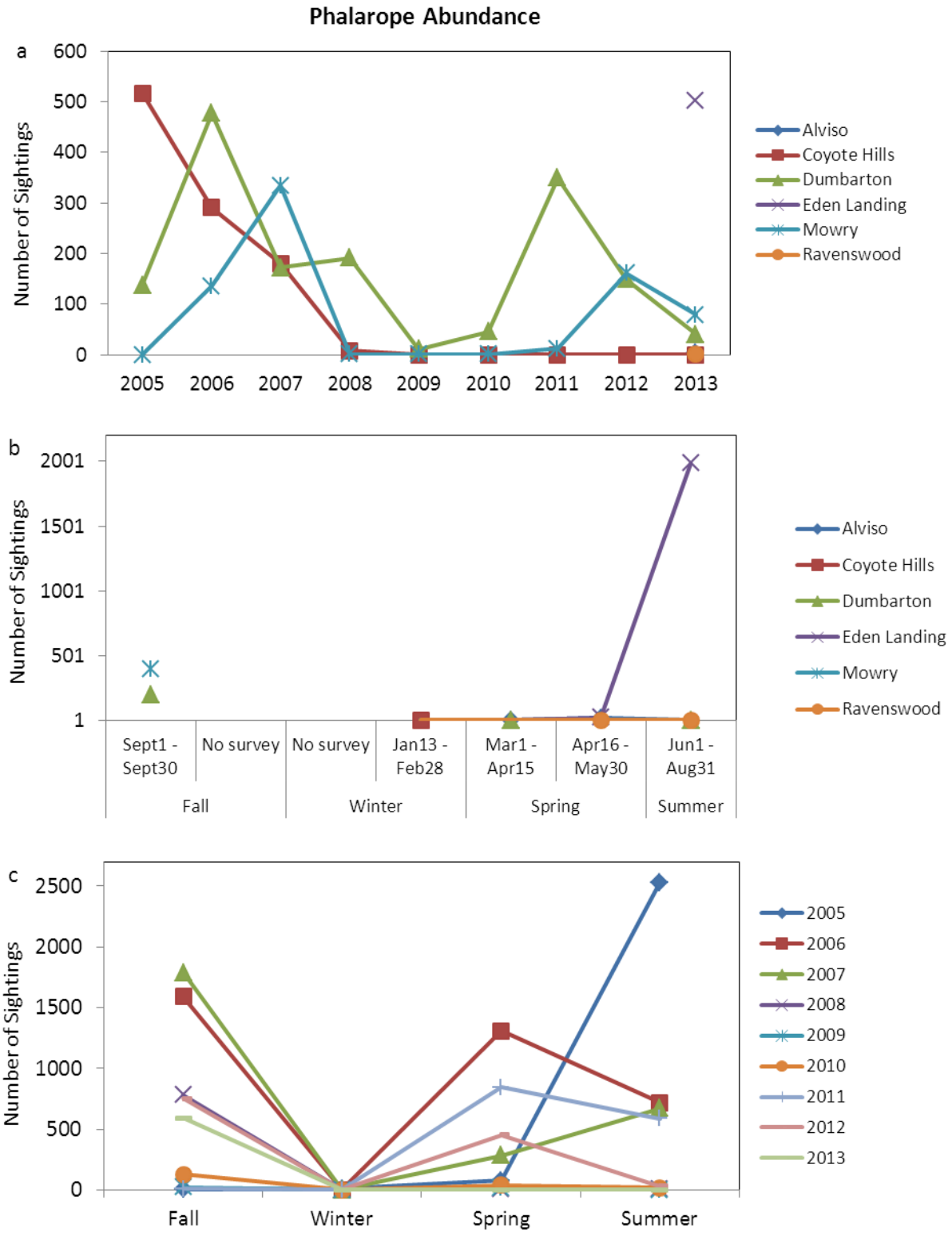


Figure 39. Phalarope abundance by (a) study year for each complex, (b) month for each complex during the current study year (Sept. 2013-Aug. 2014), and (c) month for each study year at all complexes in South San Francisco Bay, California, Sept. 2005-Aug. 2014. Years were defined as the year in which the study year started, with September as the first month. (i.e., '2005' is Sept. 2005-Aug. 2006).

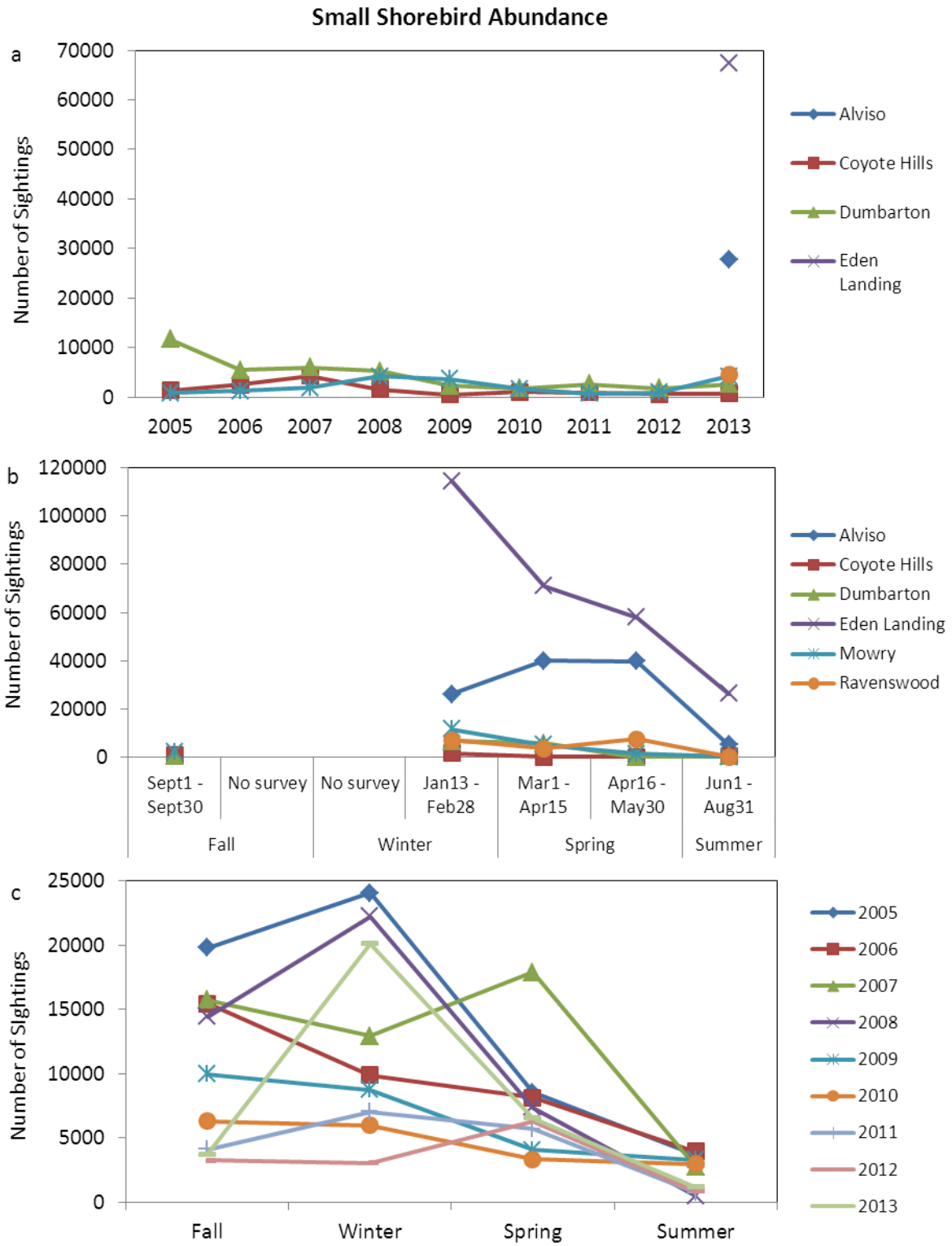


Figure 40. Small Shorebird abundance by (a) study year for each complex, (b) month for each complex during the current study year (Sept. 2013-Aug. 2014), and (c) month for each study year at all complexes in South San Francisco Bay, California, Sept. 2005-Aug. 2014. Years were defined as the year in which the study year started, with September as the first month. (i.e., '2005' is Sept. 2005-Aug. 2006).

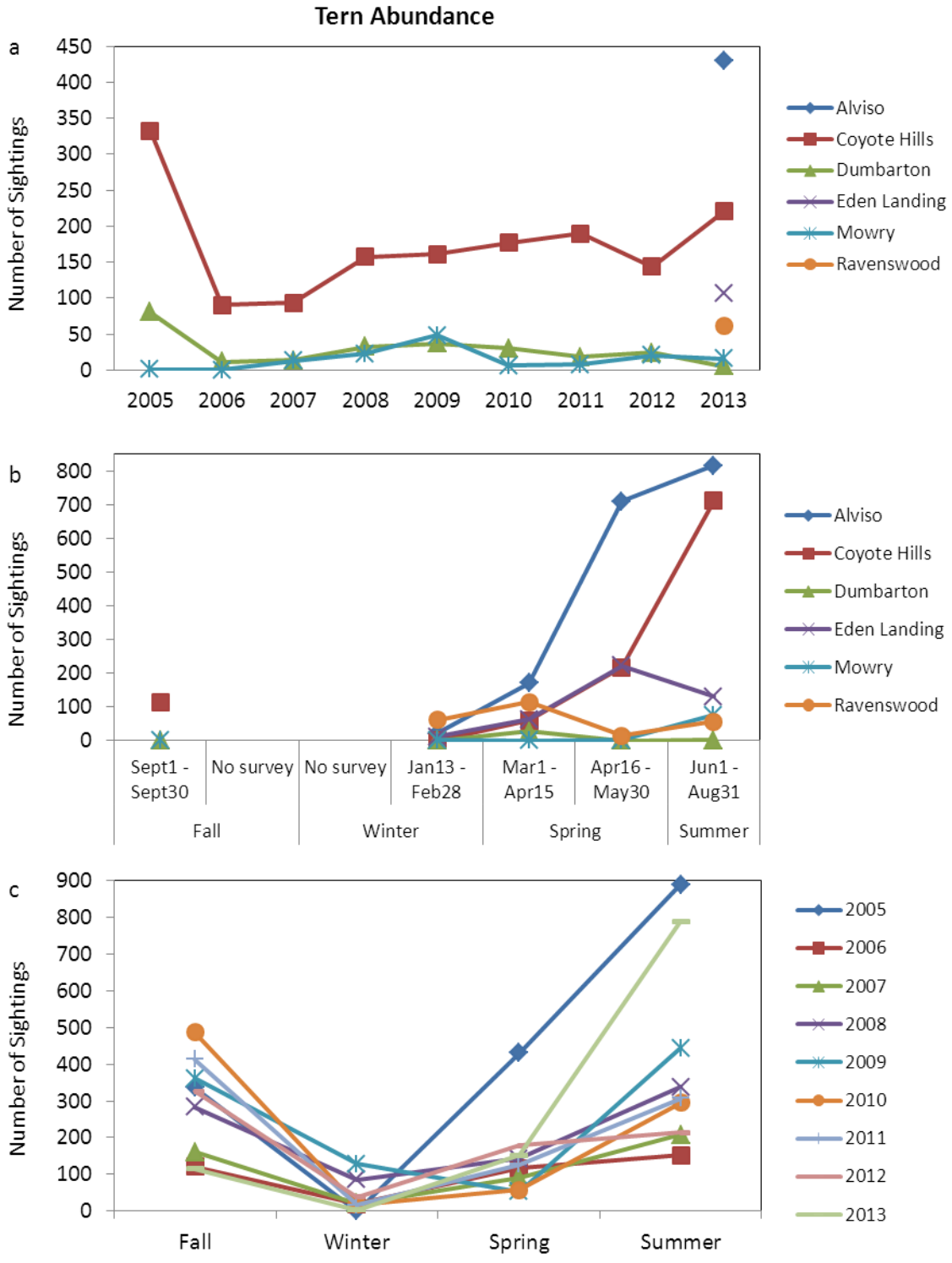


Figure 41. Tern abundance by (a) study year for each complex, (b) month for each complex during the current study year (Sept. 2013-Aug. 2014), and (c) month for each study year at all complexes in South San Francisco Bay, California, Sept. 2005-Aug. 2014. Years were defined as the year in which the study year started, with September as the first month. (i.e., '2005' is Sept. 2005-Aug. 2006).

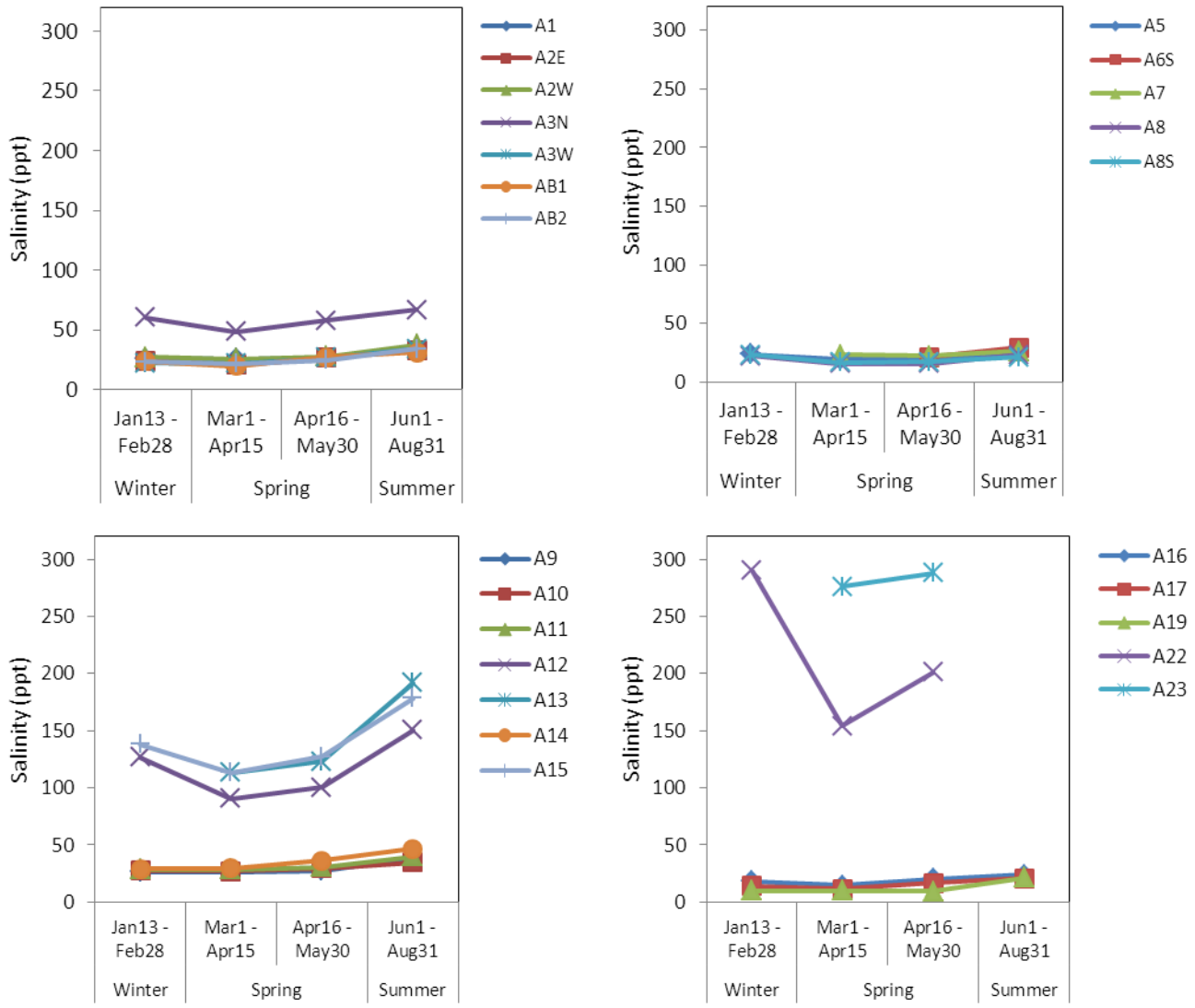


Figure 42. Average monthly salinity (ppt) at the Alviso pond complex, South San Francisco Bay, California; Jan.-Aug. 2014.

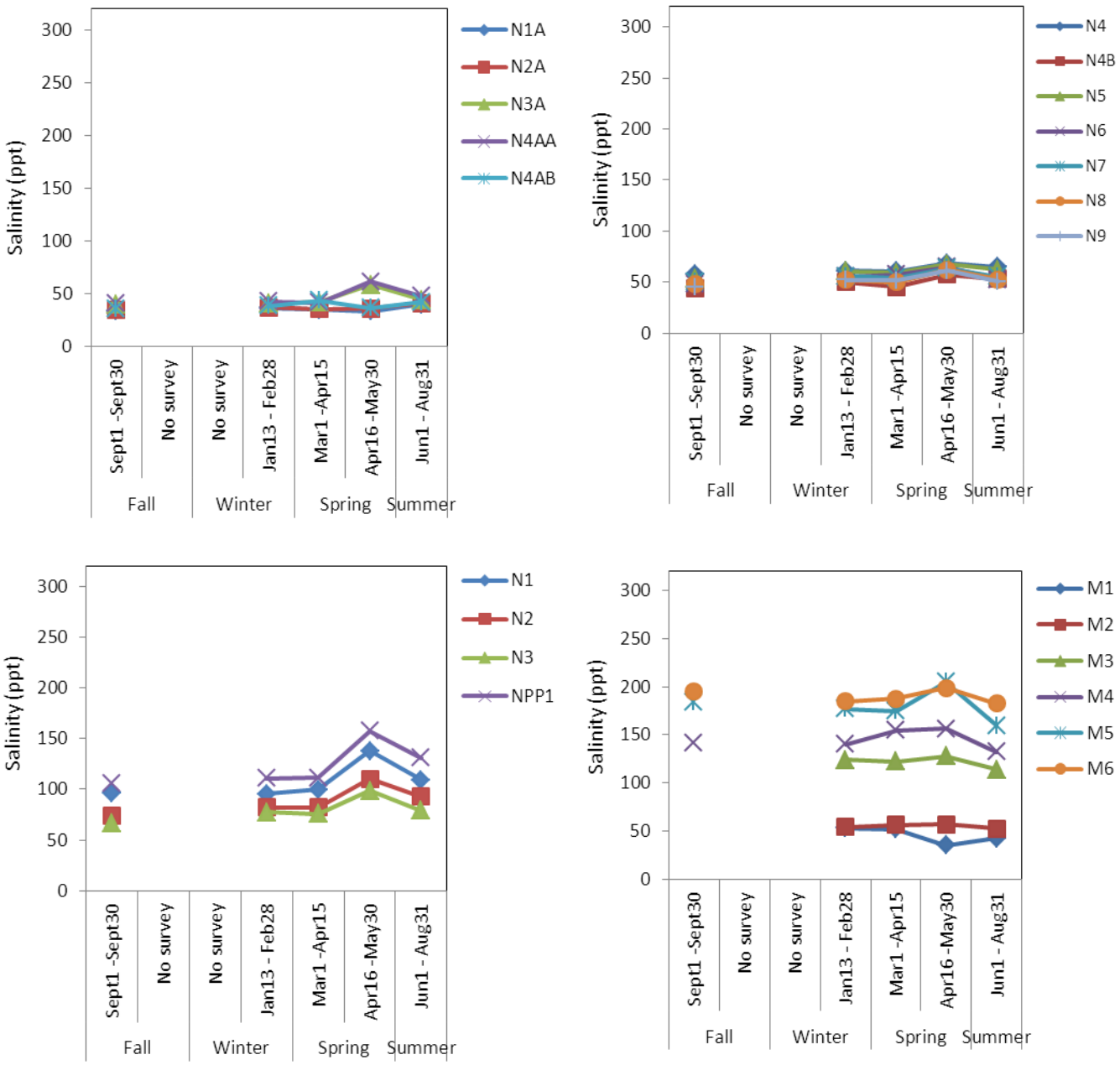


Figure 43. Average monthly salinity (ppt) at the Coyote Hills, Dumbarton and Mowry pond complexes, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014

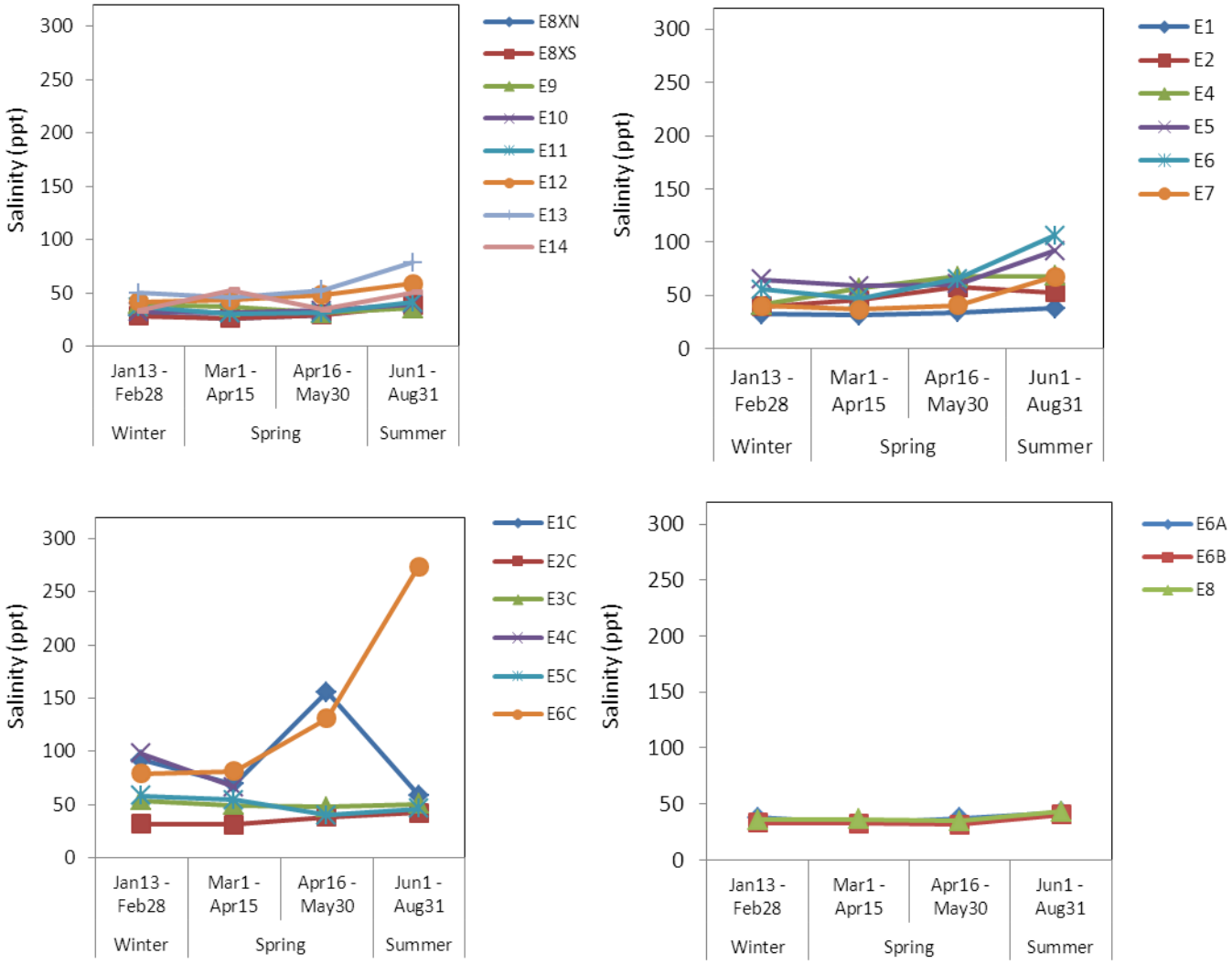


Figure 44. Average monthly salinity (ppt) at the Eden Landing pond complex, South San Francisco Bay, California; Jan.-Aug. 2014.

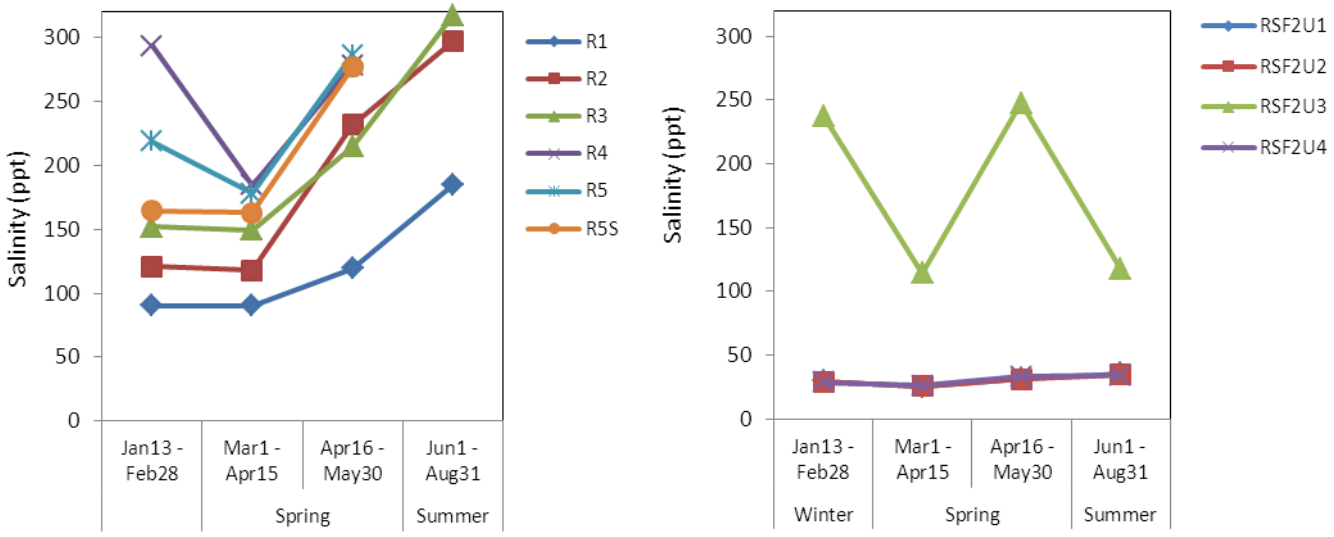


Figure 45. Average monthly salinity (ppt) at the Ravenswood pond complex, South San Francisco Bay, California; Jan.-Aug. 2014

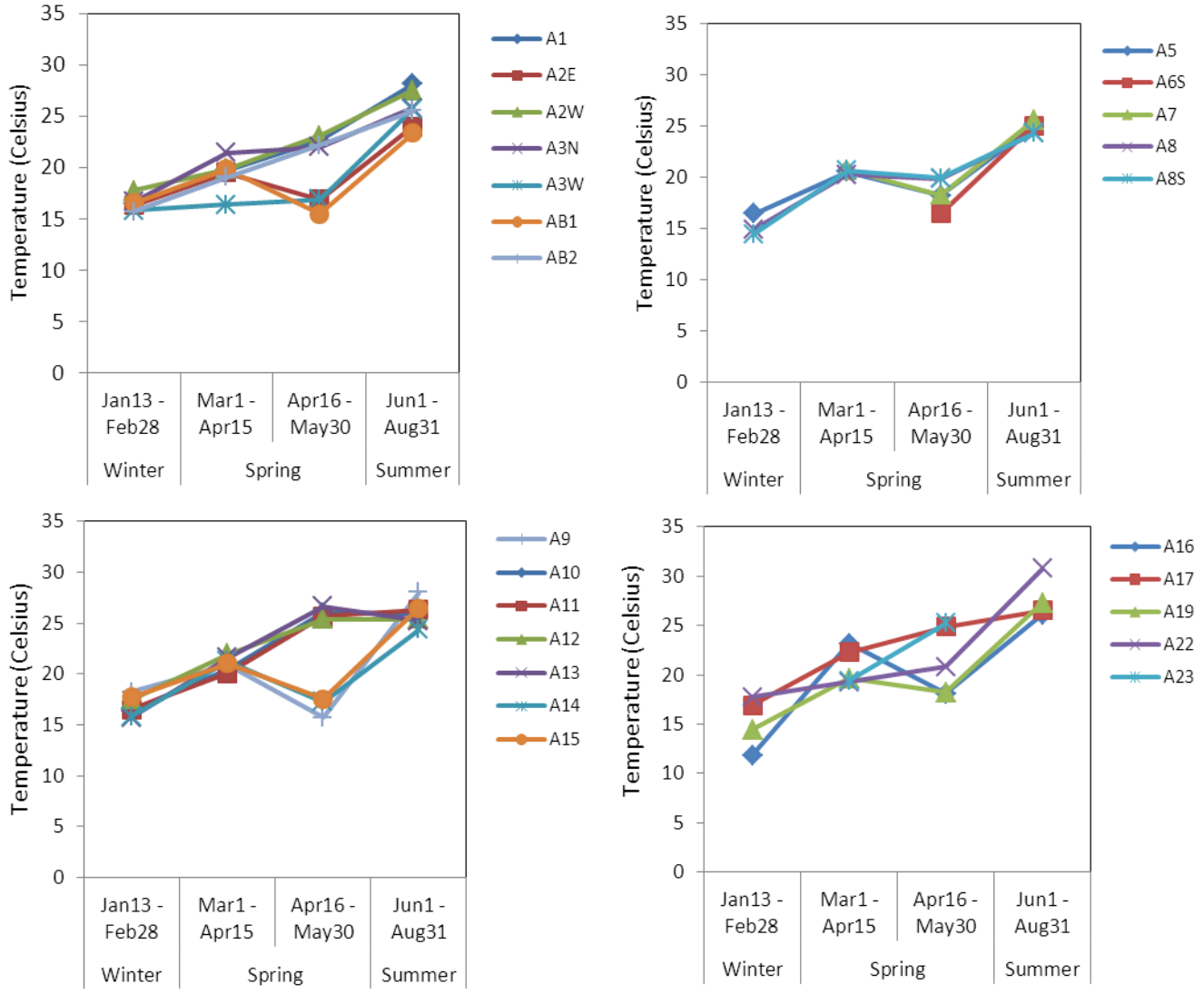


Figure 46. Average monthly temperature (°C) at the Alviso pond complex, South San Francisco Bay, California; Jan.-Aug. 2014

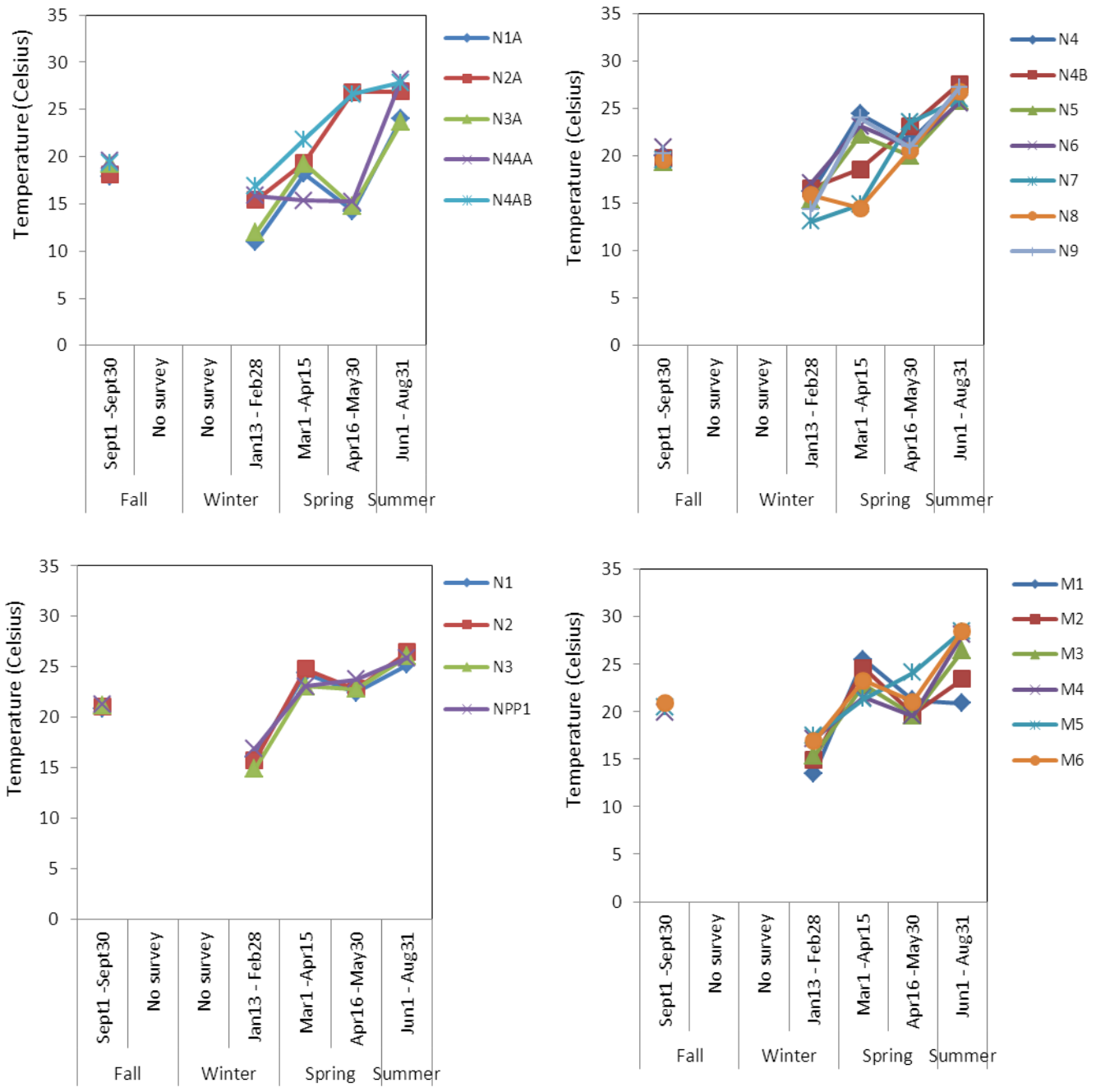


Figure 47. Average monthly temperature (°C) at the Coyote Hills, Dumbarton and Mowry pond complexes, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014

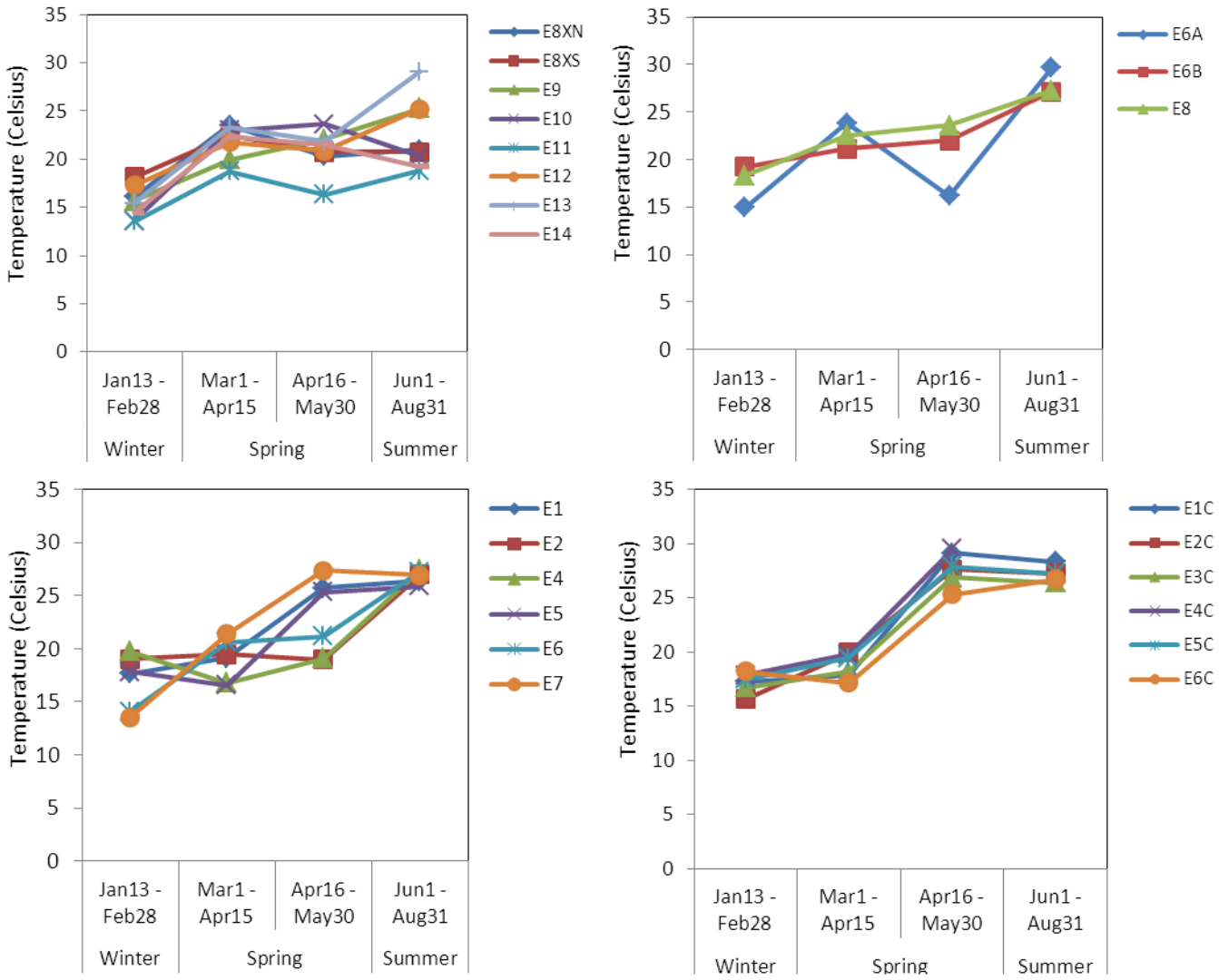


Figure 48. Average monthly temperature (°C) at the Eden Landing pond complex, South San Francisco Bay, California; Jan.-Aug. 2014.

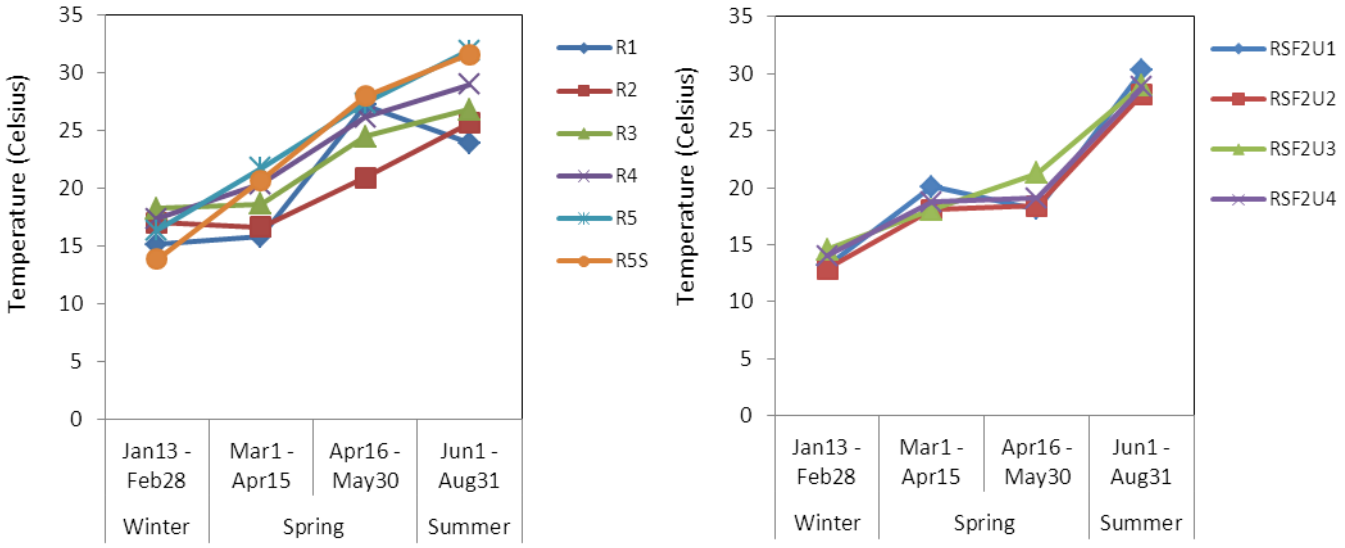


Figure 49. Average monthly temperature (°C) at the Ravenswood pond complex, South San Francisco Bay, California; Jan.-Aug. 2014

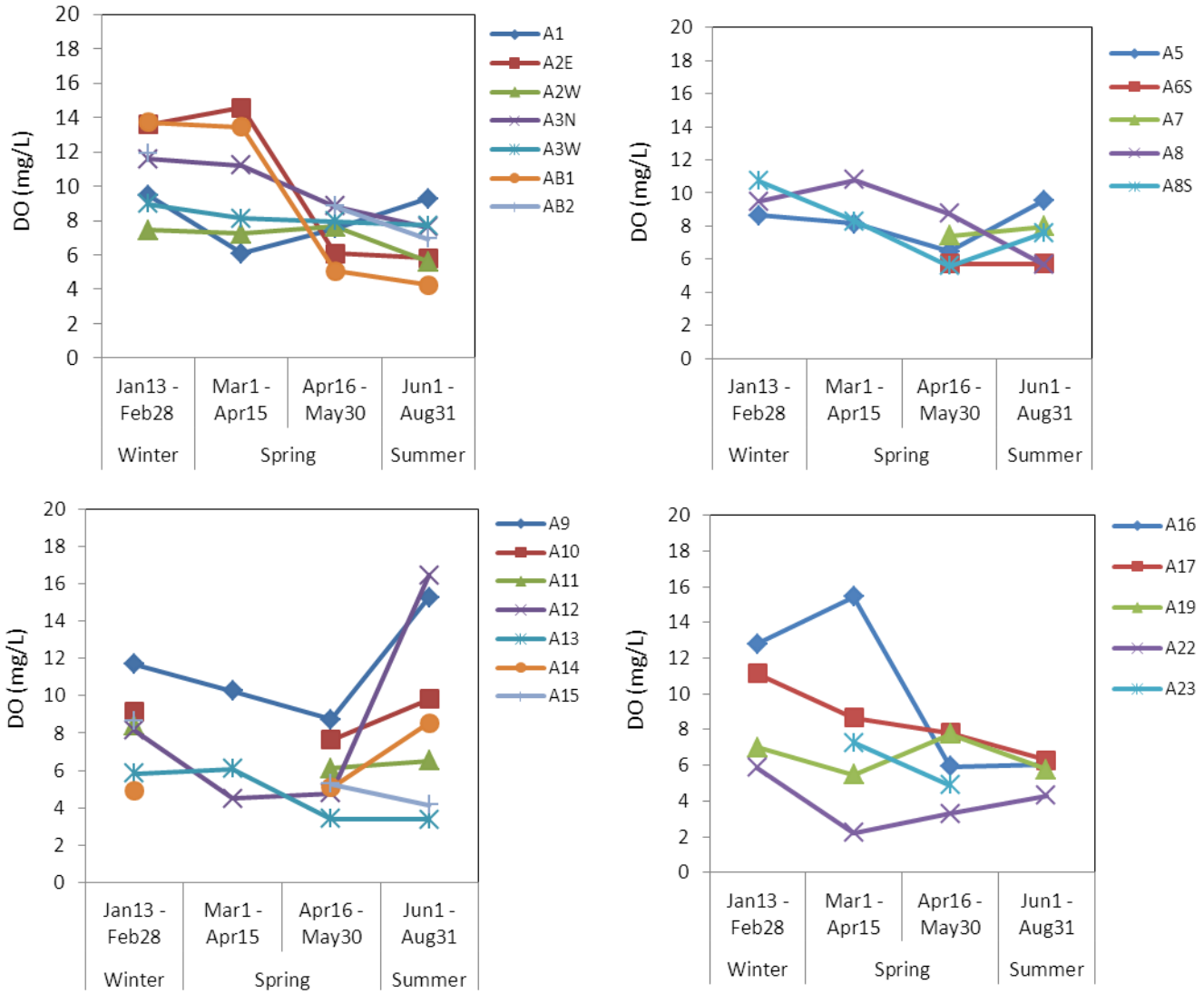


Figure 50. Average monthly dissolved oxygen (mg/L) at the Alviso pond complex, South San Francisco Bay, California; Jan.-Aug. 2014.

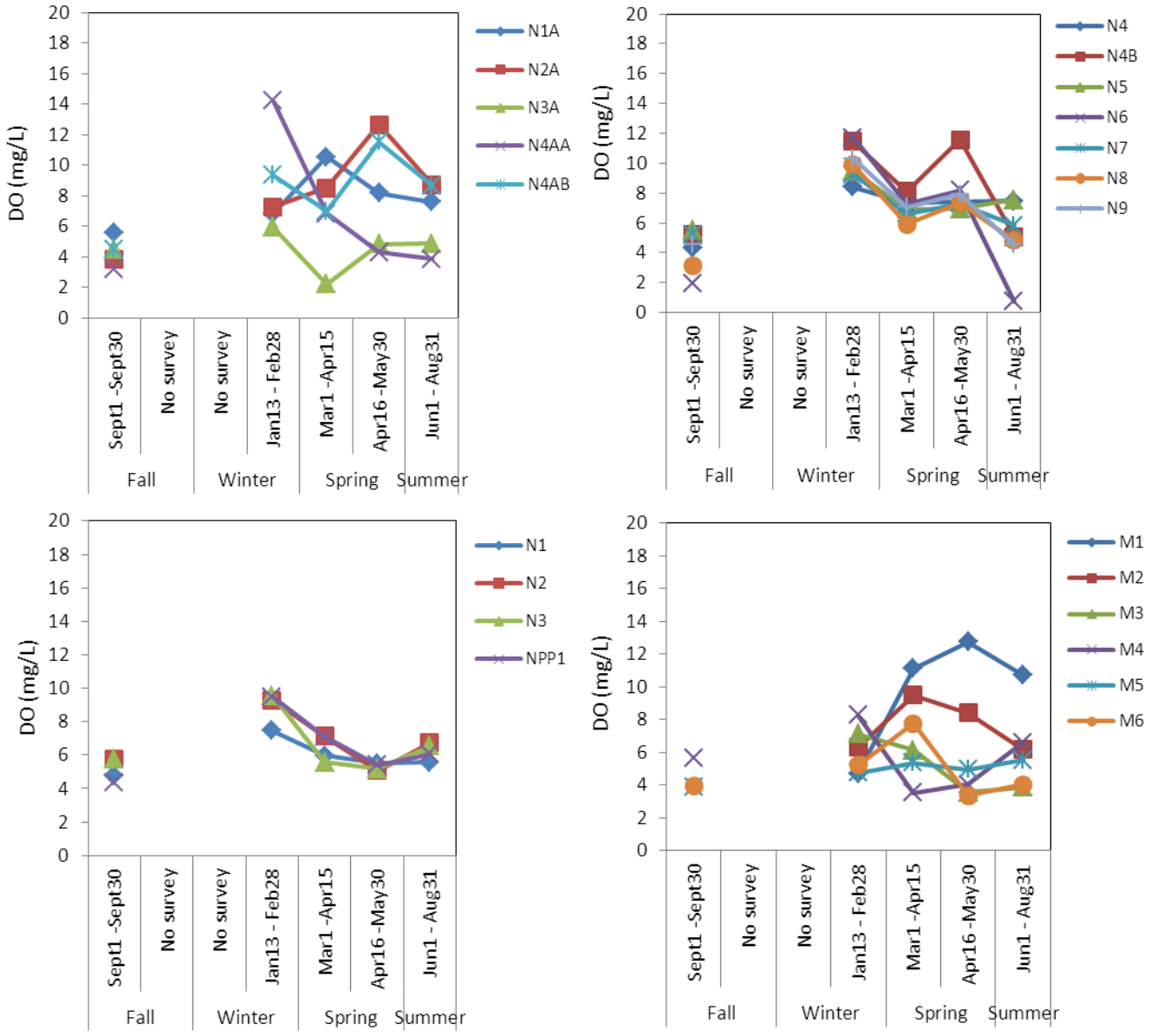


Figure 51. Average monthly dissolved oxygen (mg/L) at the Coyote Hills, Dumbarton and Mowry pond complexes, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014

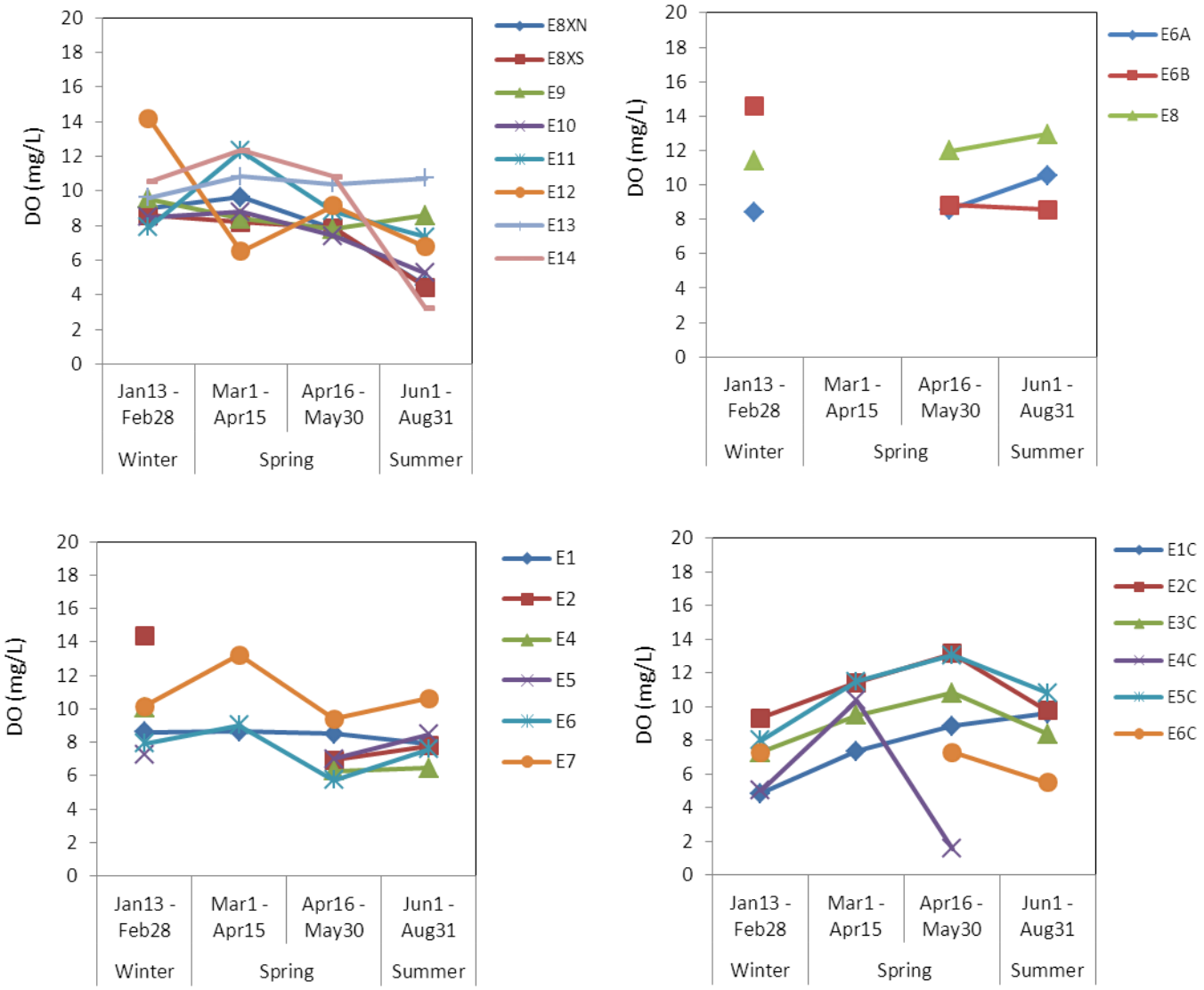


Figure 52. Average monthly dissolved oxygen (mg/L) at the Eden Landing pond complex, South San Francisco Bay, California; Jan.-Aug. 2014

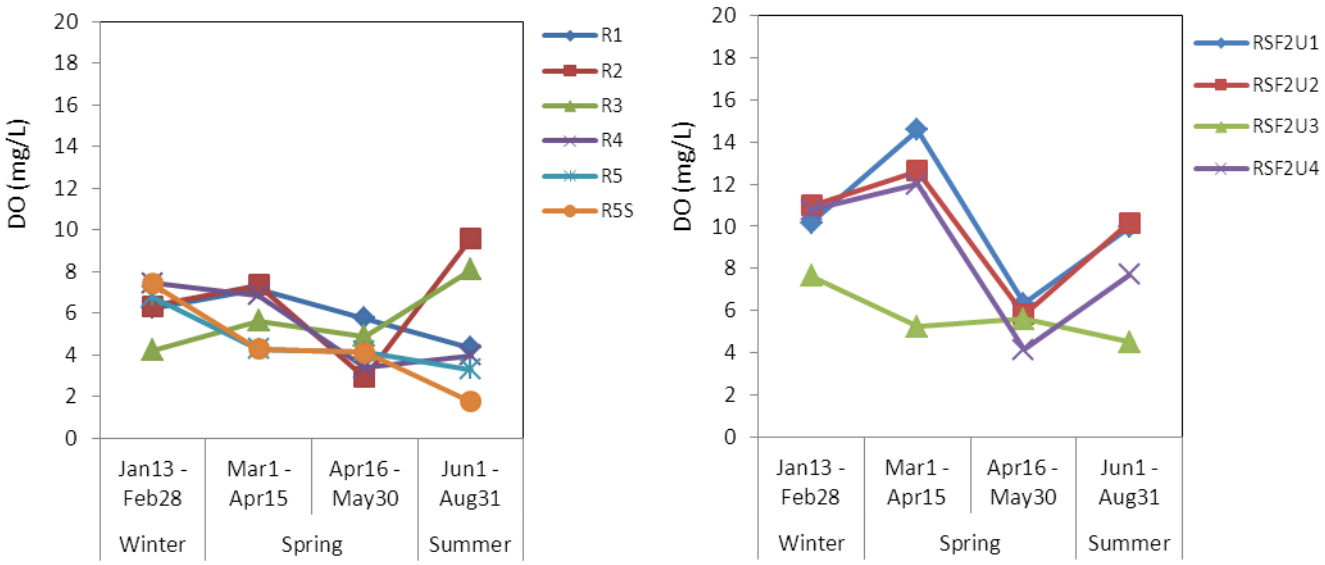


Figure 53. Average monthly dissolved oxygen (mg/L) at the Ravenswood pond complex, South San Francisco Bay, California; Jan.-Aug. 2014

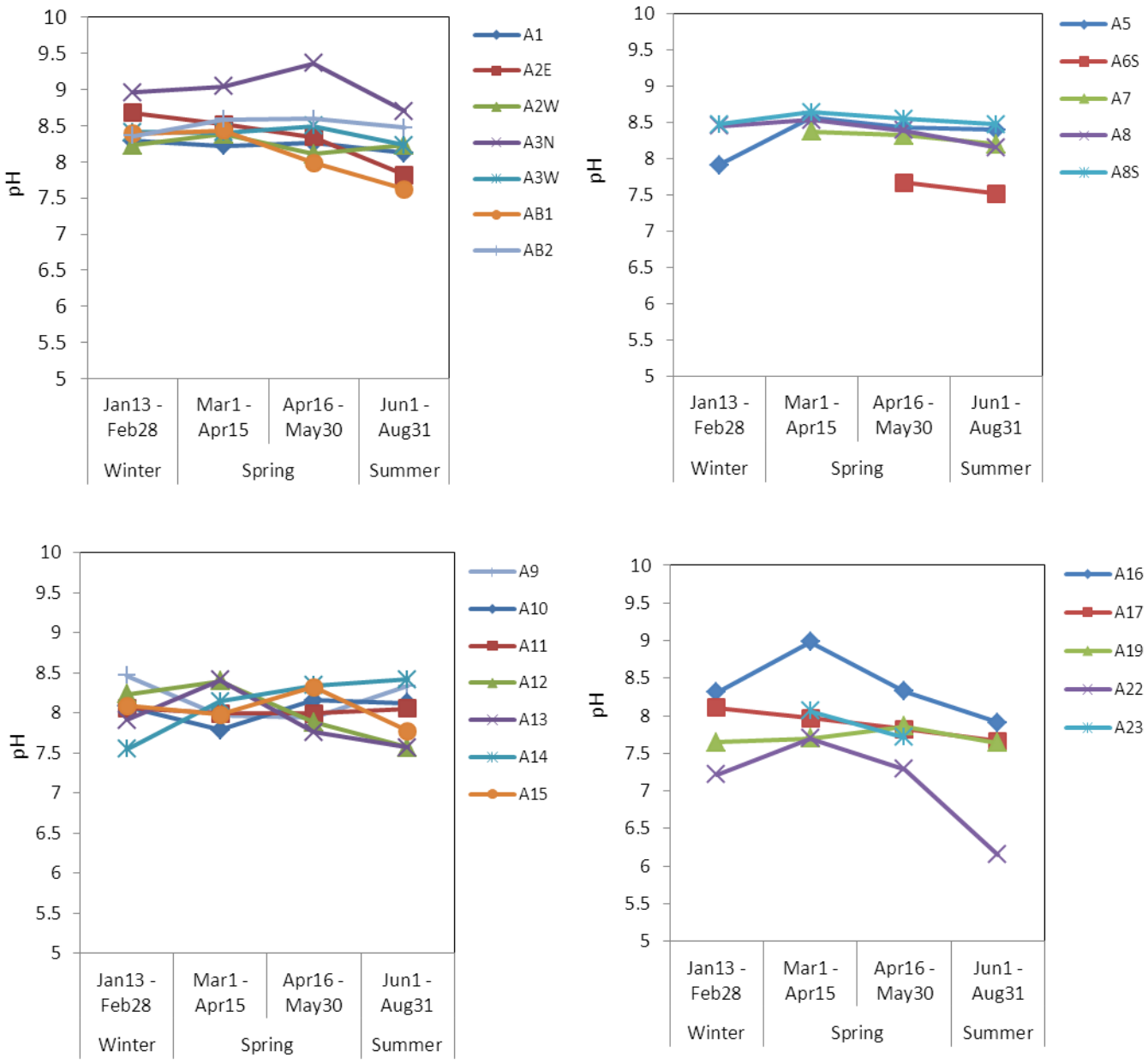


Figure 54. Average monthly pH at the Alviso pond complex, South San Francisco Bay, California; Jan.-Aug. 2014

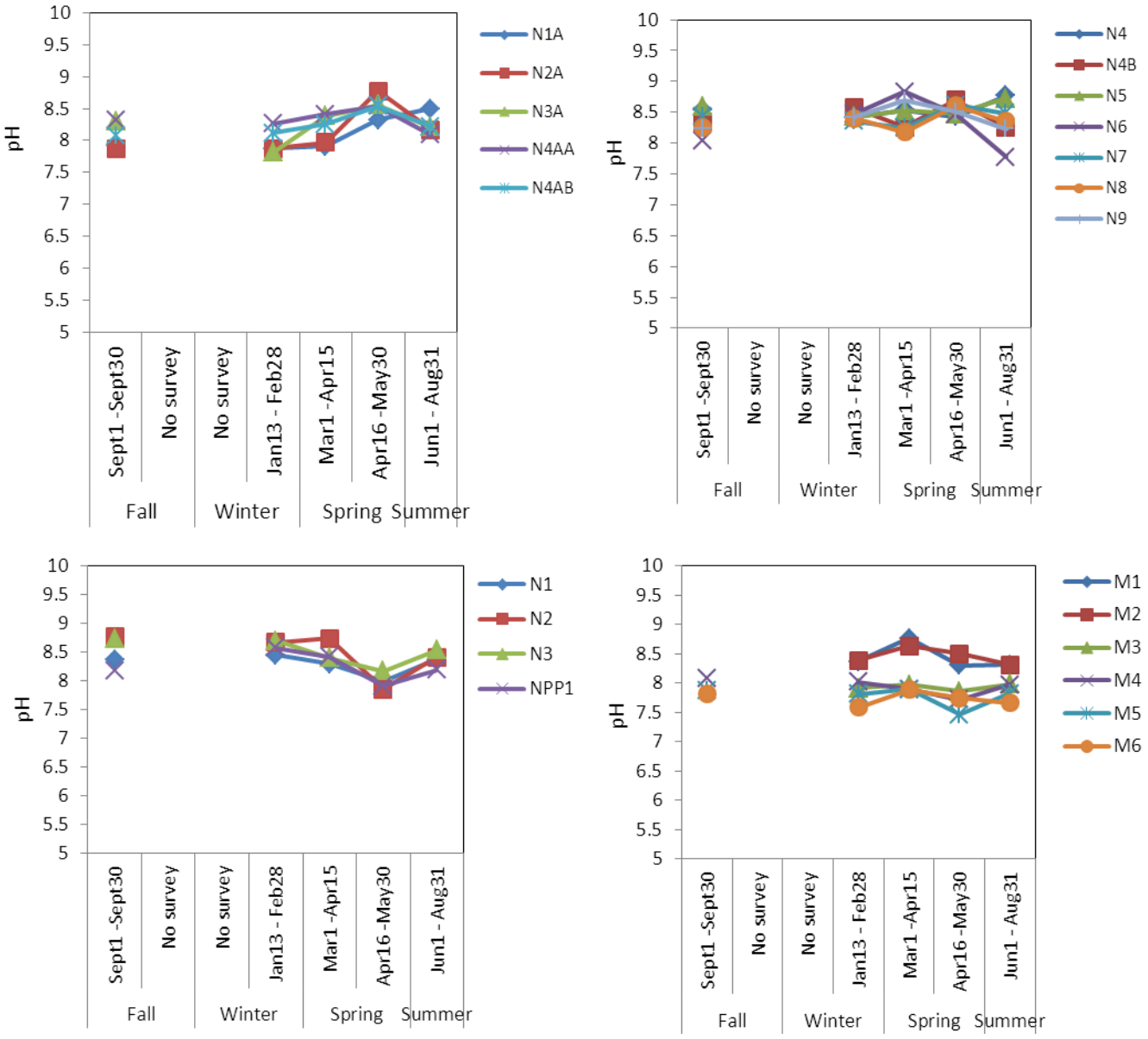


Figure 55. Average monthly pH at the Coyote Hills, Dumbarton and Mowry pond complexes, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014.

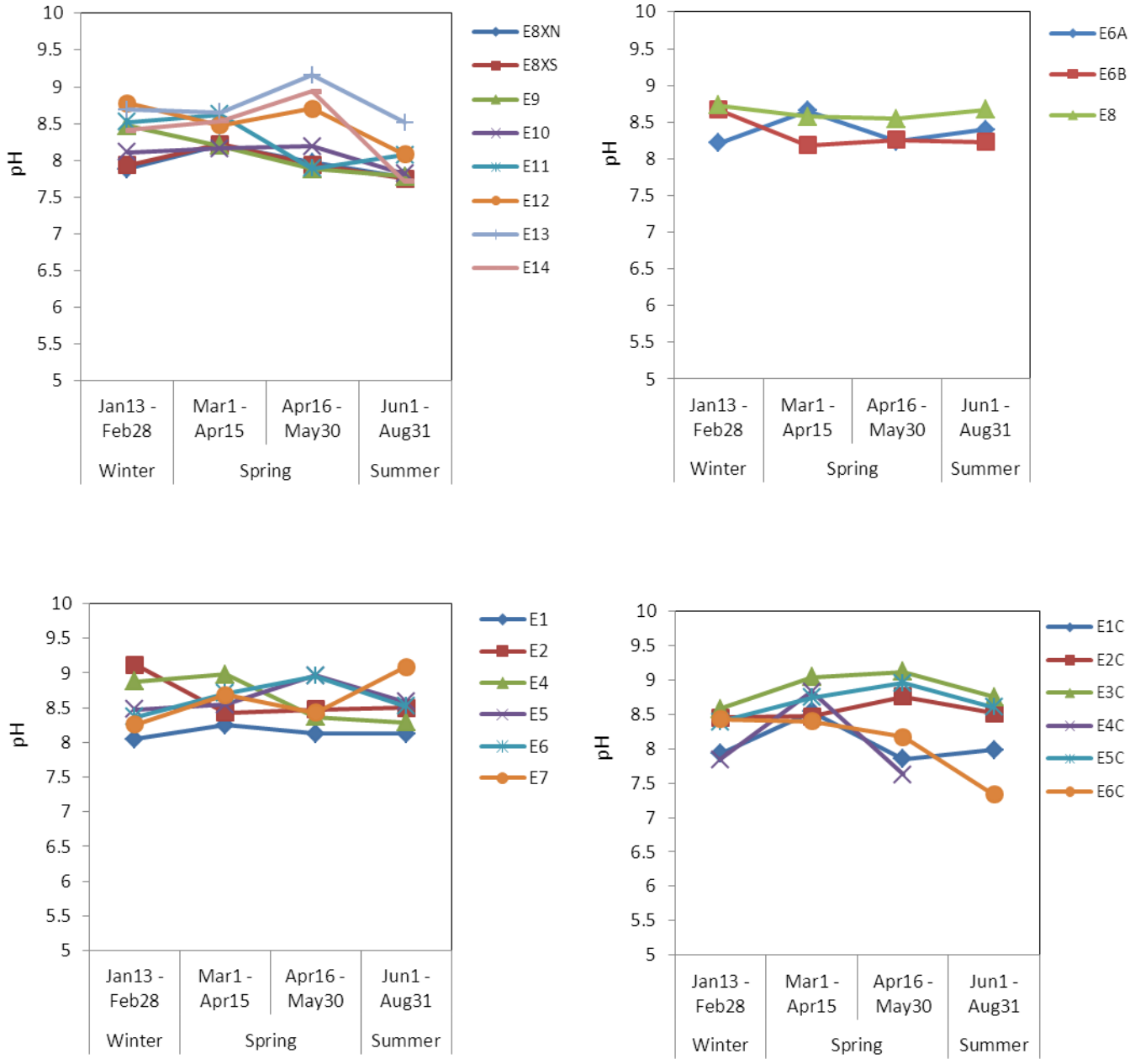


Figure 56. Average monthly pH at the Eden Landing pond complex, South San Francisco Bay, California; Jan.-Aug. 2014

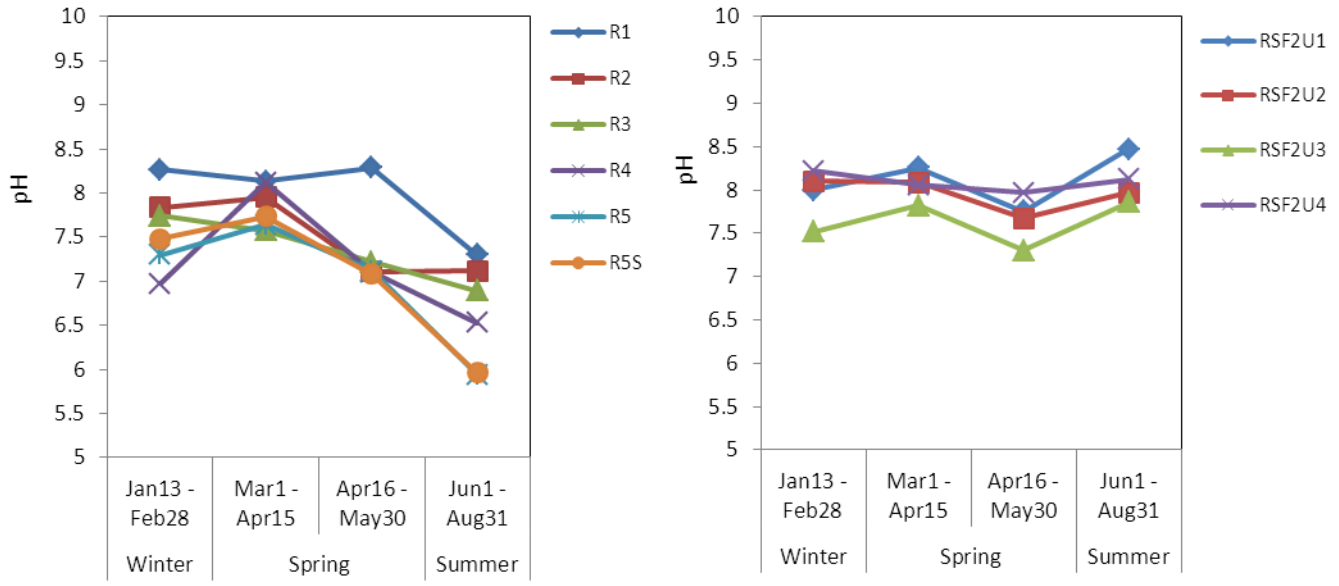


Figure 57. Average monthly pH at the Ravenswood pond complex, South San Francisco Bay, California; Jan.-Aug. 2014

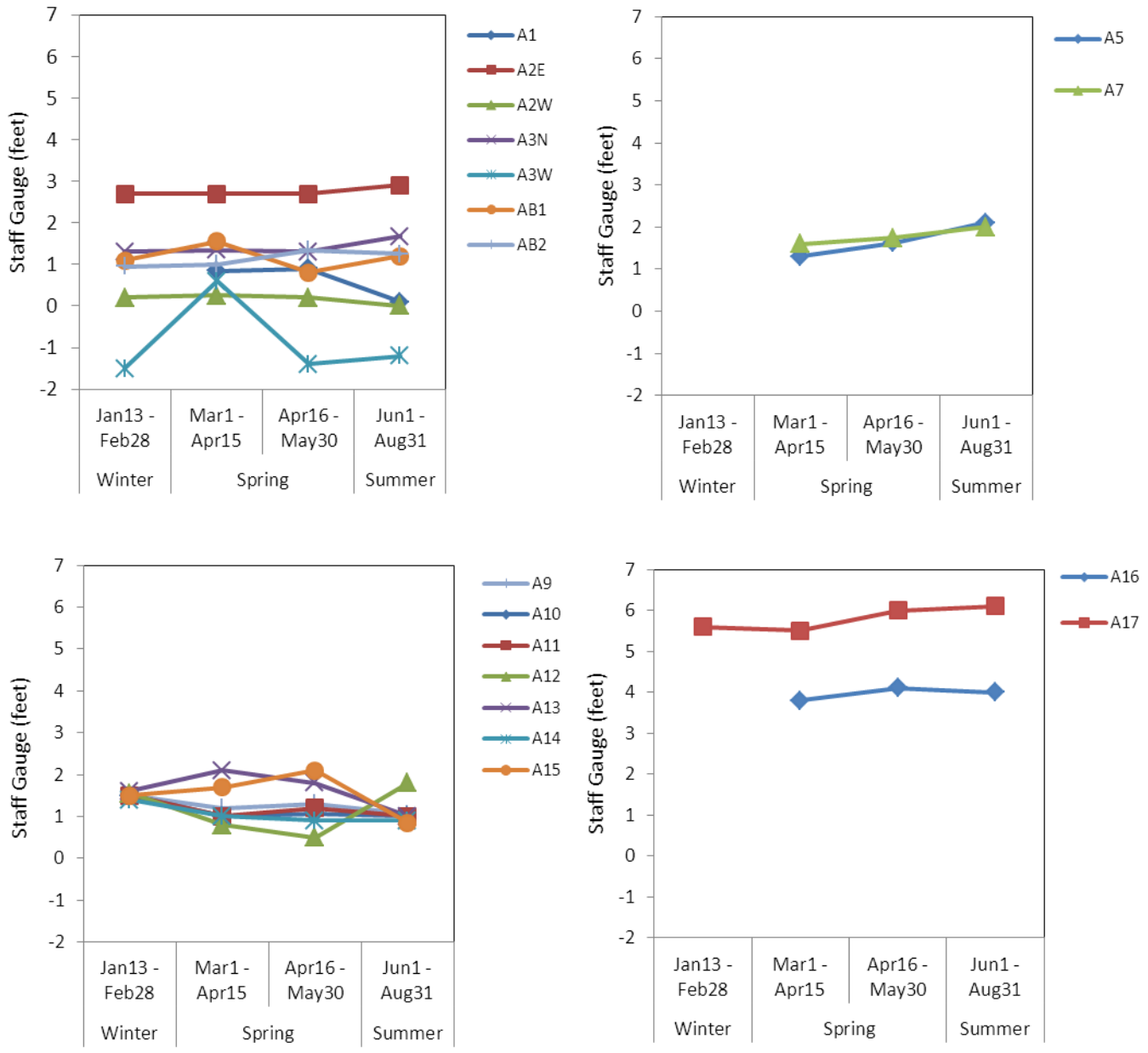


Figure 58. Average monthly staff gauge (feet) at the Alviso pond complex, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. Staff gauge values were averaged between all surveys (bird surveys and water quality surveys, if separate), but treated as a single value due to potential duplication of data between tables.

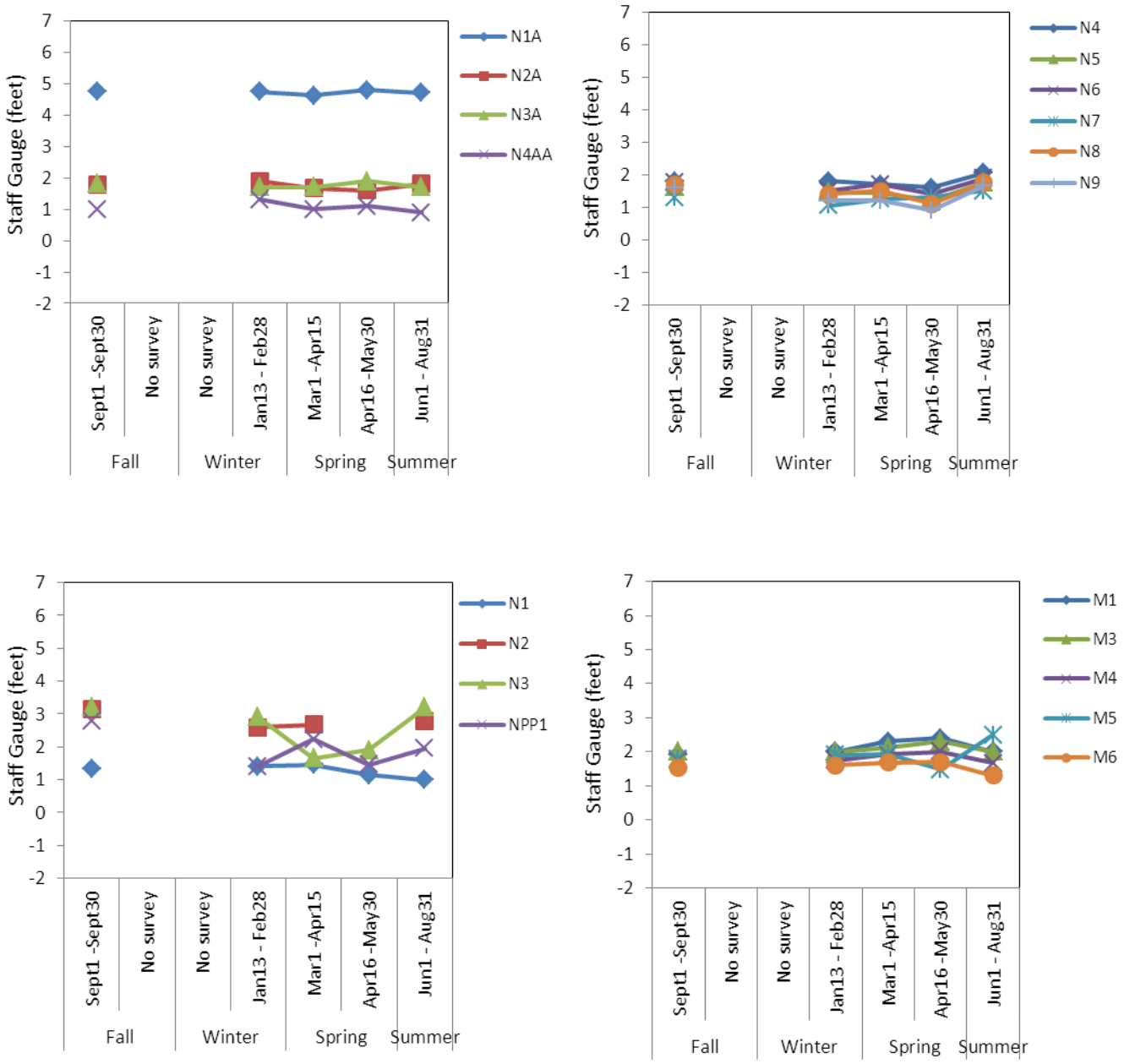


Figure 59. Average monthly staff gauge (feet) at the Coyote Hills, Dumbarton and Mowry pond complexes, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. Staff gauge values were averaged between all surveys (bird surveys and water quality surveys, if separate), but treated as a single value due to potential duplication of data between tables.

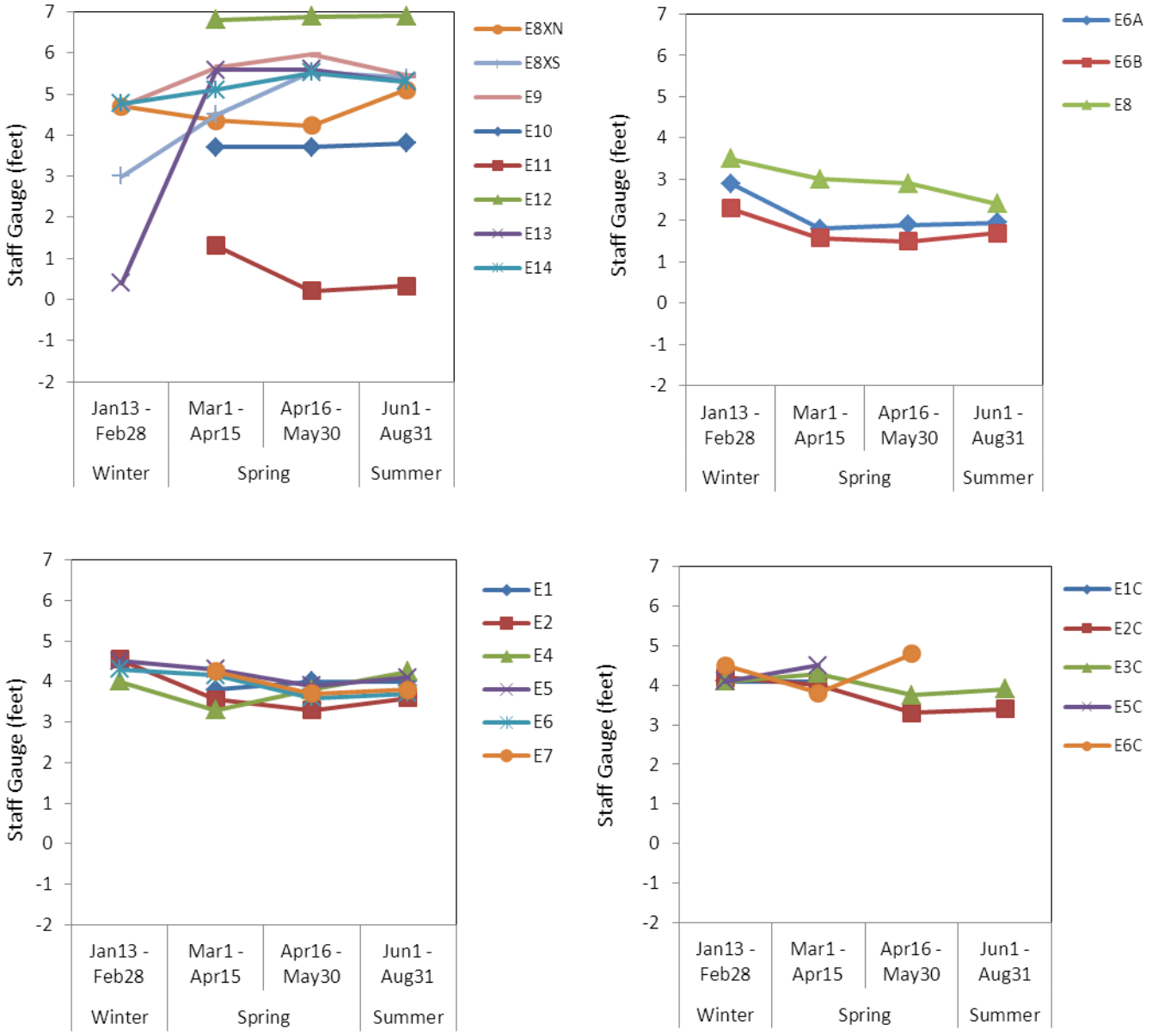


Figure 60. Average monthly staff gauge (feet) at the Eden Landing pond complex, South San Francisco Bay, California; Jan.-Aug. 2014. Staff gauge values were averaged between all surveys (bird surveys and water quality surveys, if separate), but treated as a single value due to potential duplication of data between tables.

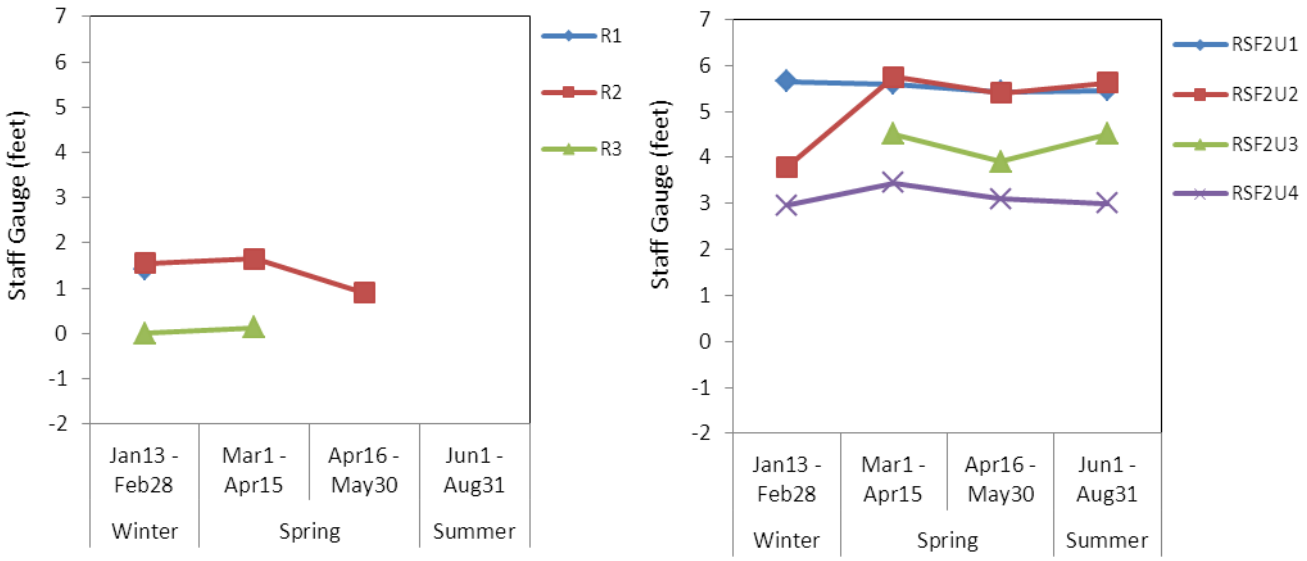


Figure 61. Average monthly staff gauge (feet) at the Ravenswood pond complex, South San Francisco Bay, California; Jan.-Aug. 2014Staff gauge values were averaged between all surveys (bird surveys and water quality surveys, if separate), but treated as a single value due to potential duplication of data between tables.

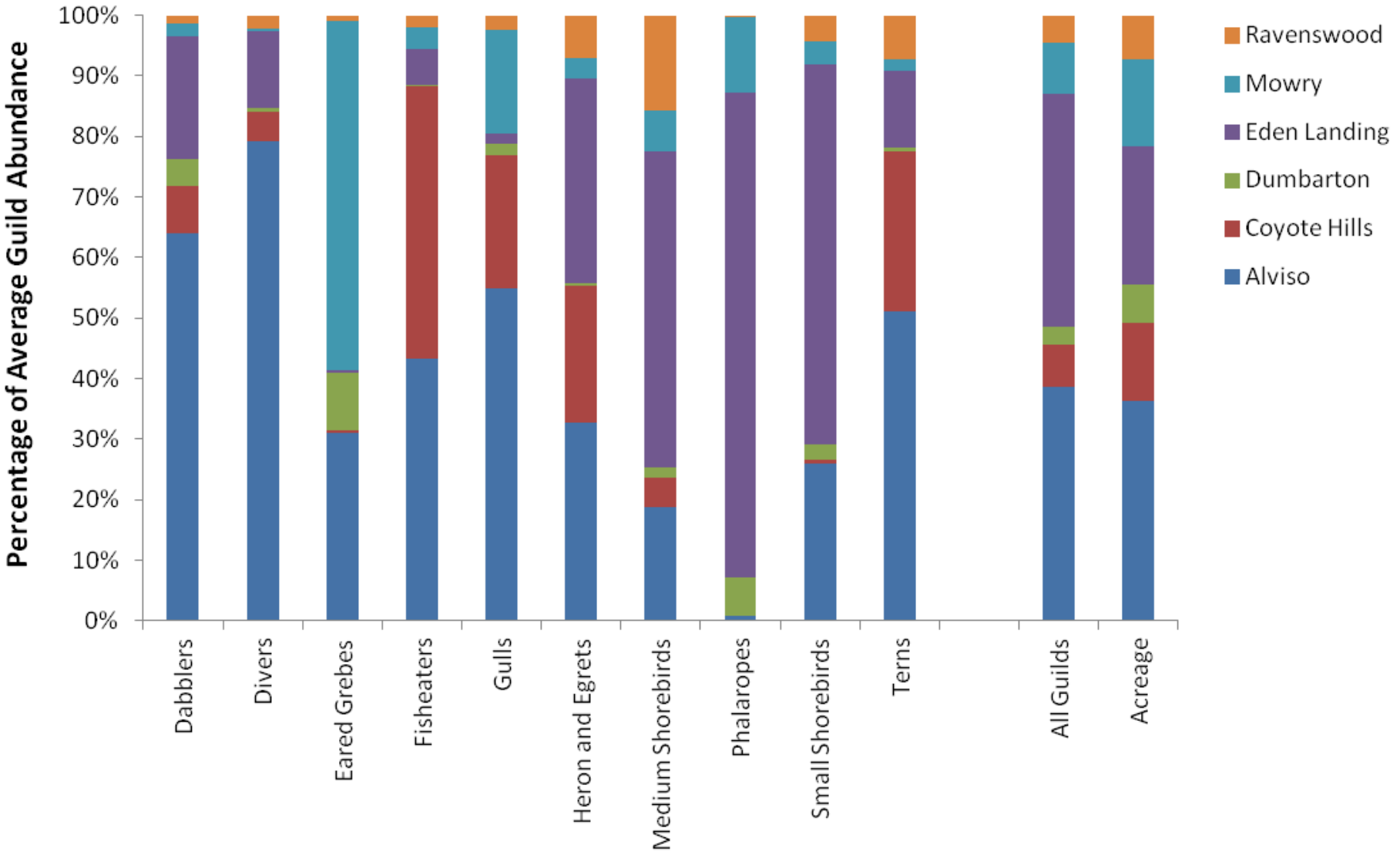


Figure 62. Percentage of average guild abundance by complex with relative acreage of the complexes, South San Francisco Bay, California; Sept. 2013, Jan.-Aug. 2014. Reports prior to 2014 reported total abundance, rather than average abundance. Average abundance is more representative when sample sizes (number of surveys) are different between complexes, as was the case in 2014. If sample sizes are equal, total abundance and average abundance should result in the same proportions between complexes.

**APPENDIX I.** Species assignments to foraging guilds. Guilds included dabblers, divers, Eared Grebes, fisheaters, flamingos, geese, gulls, herons, medium shorebirds, phalaropes, small shorebirds, and terns.

| Common Name | Scientific Name | Guild |
|---|---|---|
| American Coot | *Fulica americana* | Dabbler |
| American Green-winged Teal | *Anas crecca* | Dabbler |
| American Wigeon | *Anas americana* | Dabbler |
| Blue-winged Teal | *Anas discors* | Dabbler |
| Cinnamon Teal | *Anas cyanoptera* | Dabbler |
| Common Moorhen | *Gallinula chloropus* | Dabbler |
| Domestic Mallard | *Anas* spp | Dabbler |
| Eurasian Wigeon | *Anas penelope* | Dabbler |
| Gadwall | *Anas strepera* | Dabbler |
| Green-winged Teal | *Anas crecca* | Dabbler |
| Long-tailed Duck | *Clangula hyemalis* | Dabbler |
| Mallard | *Anas platyrhynchos* | Dabbler |
| Northern Pintail | *Anas acuta* | Dabbler |
| Northern Shoveler | *Anas clypeata* | Dabbler |
| Unidentified dabbling duck | dabbling duck spp. | Dabbler |
| Barrow's Goldeneye | *Bucephala islandica* | Diver |
| Bufflehead | *Bucephala albeola* | Diver |
| Canvasback | *Aythya valisineria* | Diver |
| Common Goldeneye | *Bucephala clangula* | Diver |
| Greater Scaup | *Aythya marila* | Diver |
| Lesser Scaup | *Aythya affinis* | Diver |
| Redhead | *Aythya americana* | Diver |
| Ring-necked Duck | *Aythya collaris* | Diver |
| Ruddy Duck | *Oxyura jamaicensis* | Diver |
| Surf Scoter | *Melanitta perspicillata* | Diver |
| Tufted Duck | *Aythya fuligula* | Diver |
| Unidentified diving duck | diving duck spp. | Diver |
| Unidentified scaup | *Aythya* spp. | Diver |
| White-winged scoter | *Melanitta fusca* | Diver |
| Eared Grebe | *Podiceps nigricollis* | Eared Grebe |
| American White Pelican | *Pelecanus erythrorhynchos* | Fisheater |
| Belted Kingfisher | *Ceryle alcyon* | Fisheater |
| Black Skimmer | *Rhynchops niger* | Fisheater |
| Brown Booby | *Sula leucogaster* | Fisheater |
| Brown Pelican | *Pelecanus occidentalis* | Fisheater |
| Clark's Grebe | *Aechmophorus clarkii* | Fisheater |
| Common Loon | *Gavia immer* | Fisheater |
| Common Merganser | *Mergus merganser* | Fisheater |
| Double-crested Cormorant | *Phalacrocorax auritus* | Fisheater |
| Hooded Merganser | *Lophodytes cucullatus* | Fisheater |
| Horned Grebe | *Podiceps auritus* | Fisheater |
| Long-tailed Jaeger | *Stercorarius longicaudus* | Fisheater |

| | | |
|---|---|---|
| Pacific Loon | *Gavia pacifica* | Fisheater |
| Pelagic Cormorant | *Phalacrocorax pelagicus* | Fisheater |
| Pied-billed Grebe | *Podilymbus podiceps* | Fisheater |
| Red-breasted Merganser | *Mergus serrator* | Fisheater |
| Red-necked Grebe | *Podiceps grisegena* | Fisheater |
| Red-throated Loon | *Gavia stellata* | Fisheater |
| Unidentified Cormorant | *Phalacrocorax spp* | Fisheater |
| Unidentified grebe | | Fisheater |
| Western Grebe | *Aechmophorus occidentalis* | Fisheater |
| Western Grebe or Clark's Grebe | *Aechmophorus* spp. | Fisheater |
| Chilean Flamingo | *Phoenicopterus chilensis* | Flamingo |
| Greater Flamingo | *Phoenicopterus ruber* | Flamingo |
| Black Brant | *Branta bernicla nigricans* | Goose |
| Canada Goose | *Branta canadensis* | Goose |
| Greater White-fronted Goose | *Anser albifrons* | Goose |
| Mute Swan | *Cygnus olor* | Goose |
| Snow Goose | *Chen caerulescens* | Goose |
| Trumpeter Swan | *Cygnus buccinator* | Goose |
| Tundra Swan | *Cygnus columbianus* | Goose |
| Bonaparte's Gull | *Larus philadelphia* | Gull |
| California Gull | *Larus californicus* | Gull |
| California Gull or Ring-billed Gull | *Larus* spp. | Gull |
| Franklin's Gull | *Larus pipixcan* | Gull |
| Glaucous Gull | *Larus hyperboreus* | Gull |
| Glaucous-winged Gull | *Larus glaucescens* | Gull |
| Herring Gull | *Larus argentatus* | Gull |
| Mew Gull | *Larus canus* | Gull |
| Ring-billed Gull | *Larus delawarensis* | Gull |
| Sabine's Gull | *Xena sabini* | Gull |
| Slaty-backed Gull | *Larus schistisagus* | Gull |
| Thayer's Gull | *Larus thayeri* | Gull |
| Unidentified gull | *Larus* spp. | Gull |
| Western Gull | *Larus occidentalis* | Gull |
| American Bittern | *Botarus lentiginosus* | Heron |
| Black-crowned Night-Heron | *Nycticorax nycticorax* | Heron |
| Cattle Egret | *Bubulcus ibis* | Heron |
| Great Blue Heron | *Ardea herodias* | Heron |
| Great Egret | *Ardea alba* | Heron |
| Green Heron | *Butorides virescens* | Heron |
| Little Blue Heron | *Egretta caerulea* | Heron |
| Snowy Egret | *Egretta thula* | Heron |
| White-faced Ibis | *Plegadis chihi* | Heron |
| American Avocet | *Recurvirostra americana* | Medium shorebird |
| Black Oystercatcher | *Haematopus bachmani* | Medium shorebird |
| Black Turnstone | *Arenaria melanocephala* | Medium shorebird |
| Black-bellied Plover | *Pluvialis squatarola* | Medium shorebird |
| Black-necked Stilt | *Himantopus mexicanus* | Medium shorebird |

| | | |
|---|---|---|
| Common Snipe | *Gallinago gallinago* | Medium shorebird |
| Golden Plover | *Pluvialis* spp. | Medium shorebird |
| Greater Yellowlegs | *Tringa melanoleuca* | Medium shorebird |
| Killdeer | *Charadrius vociferus* | Medium shorebird |
| Lesser Yellowlegs | *Tringa flavipes* | Medium shorebird |
| Long-billed Curlew | *Numenius americanus* | Medium shorebird |
| Marbled Godwit | *Limosa fedoa* | Medium shorebird |
| Pacific Golden-Plover | *Pluvialis fulva* | Medium shorebird |
| Red Knot | *Calidris canutus* | Medium shorebird |
| Ruddy Turnstone | *Arenaria interpres* | Medium shorebird |
| Ruff | *Philomachus pugnax* | Medium shorebird |
| Spotted Redshank | *Tringa erythropus* | Medium shorebird |
| Stilt Sandpiper | *Calidris himantopus* | Medium shorebird |
| Surfbird | *Aphriza virgata* | Medium shorebird |
| Unidentifed yellowlegs | *Tringa* spp. | Medium shorebird |
| Unidentified medium shorebird | med shorebird spp. | Medium shorebird |
| Wandering Tattler | *Tringa incana* | Medium shorebird |
| Whimbrel | *Numenius phaeopus* | Medium shorebird |
| Willet | *Catoptrophorus semipalmatus* | Medium shorebird |
| Red Phalarope | *Phalaropus fulicaria* | Phalarope |
| Red-necked Phalarope | *Phalaropus lobatus* | Phalarope |
| Unidentified phalarope | *Phalaropus spp.* | Phalarope |
| Wilson's Phalarope | *Phalaropus tricolor* | Phalarope |
| California Black Rail | *Laterallus jamaicensis coturniculus* | Rail |
| Clapper Rail | *Rallus longirostris* | Rail |
| Sora | *Porzana carolina* | Rail |
| Unidentified rail | | Rail |
| Virginia Rail | *Rallus limicola* | Rail |
| Baird's Sandpiper | *Calidris bairdii* | Small shorebird |
| Dunlin | *Calidris alpina* | Small shorebird |
| Least Sandpiper | *Calidris minutilla* | Small shorebird |
| Long-billed Dowitcher | *Limnodromus scolopaceus* | Small shorebird |
| Pectoral Sandpiper | *Calidris melanotos* | Small shorebird |
| Sanderling | *Calidris alba* | Small shorebird |
| Semipalmated Plover | *Charadrius semipalmatus* | Small shorebird |
| Semipalmated Sandpiper | *Calidris pusilla* | Small shorebird |
| Short-billed Dowitcher | *Limnodromus griseus* | Small shorebird |
| Snowy Plover | *Charadrius alexandrinus* | Small shorebird |
| Spotted Sandpiper | *Actitis macularia* | Small shorebird |
| Unidentified Dowitcher | *Limnodromus* spp. | Small shorebird |
| Unidentified peeps | *Calidris* spp. | Small shorebird |
| Western Sandpiper | *Calidris mauri* | Small shorebird |
| Western Sandpiper or Dunlin | *Calidris* spp. | Small shorebird |
| Western Sandpiper or Least Sandpiper | *Calidris* spp. | Small shorebird |
| Arctic Tern | *Sterna paradisaea* | Tern |
| Black Tern | *Chlidonias niger* | Tern |

| | | |
|---|---|---|
| Caspian Tern | *Sterna caspia* | Tern |
| Common Tern | *Sterna hirundo* | Tern |
| Elegant Tern | *Sterna elegans* | Tern |
| Forster's Tern | *Sterna forsteri* | Tern |
| Least Tern | *Sterna antillarum browni* | Tern |
| Unidentified tern | *Sterna* spp. | Tern |