



SAN FRANCISCO BAY  
BIRD OBSERVATORY

## California Gull Breeding Surveys and Hazing Project, 2011.



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## INTRODUCTION

In 30 years, the San Francisco Bay breeding population of California Gulls (*Larus californicus*) grew from less than 20 breeding gulls in 1980 to over 46,000 in 2010 (Tokatlian et al. 2010). Research has shown that the gulls impact breeding waterbirds through habitat encroachment and nest and chick predation (Strong et al. 2004, Ackerman et al. 2006, Robinson-Nilsen et al. 2010). In December 2010, pond A6 was restored to tidal action as part of the South Bay Salt Pond Restoration Project. This pond was formerly home to the largest California Gulls colony in the Bay and held just over 50% of the total nests in 2010 (Tokatlian et al 2010). Restoring this pond to tidal action displaced the thousands of nesting gulls. In order to determine where the displaced California Gulls would nest in 2011 and to prevent them from nesting in ecologically sensitive areas, the San Francisco Bay Bird Observatory (SFBBO) and the Don Edwards San Francisco Bay National Wildlife Refuge (Refuge) conducted intensive surveys and selective hazing during the gull nest initiation stage. The report summarizes our results.

## METHODS

### Study Area

SFBBO and Refuge staff and volunteers surveyed all potential California Gull habitats in the baylands of the South San Francisco Bay. We surveyed Radio Road wetlands in Redwood City, the Ravenswood pond complex; the Palo Alto Baylands; the Alviso salt pond complex; the City of Sunnyvale Water Pollution Control Plant ponds; the Warm Springs, Mowry, Dumbarton and Coyote Hills salt pond complexes; and Eden Landing Ecological Reserve (Figure 1). We also completed one survey of Hayward Shoreline and Frank's Dump in Hayward, San Leandro Marina in San Leandro and Martin Luther King Jr. Regional Shoreline in Oakland.

### Ecologically Sensitive Areas

Prior to the California Gull breeding season, biologists from the Refuge and SFBBO met to determine which areas the gulls would have the greatest negative impact on wildlife if they began breeding at the site (hereby ecologically sensitive areas). We developed a three-tiered ranking of potential sites and defined our hazing effort and activities at the sites. The tiers included:

- **Tier 1** sites are the highest priority sites and are areas where gulls should not nest. SFBBO will haze roosting gulls or gulls displaying nesting behaviors (i.e., gathering nesting materials, copulation, etc). These sites were designated as ecologically sensitive areas.
- **Tier 2** sites are areas where Refuge biologists prefer that gulls do not nest. We may conduct hazing activities (as described above) at specific areas at these sites (e.g., waterbird nesting islands), if time allows, and/or Refuge biologists will direct any action at those locations. These sites, or some feature of the site, were considered to be ecologically sensitive areas.
- **Tier 3** sites are where gulls may nest without any deterrence efforts. These sites were not designated as ecologically sensitive areas.

We then assigned all potential breeding sites in the South San Francisco Bay to one of the three tiers (Figure 1). We classified the following areas as:

- **Tier 1 sites:**
  - Eden Landing Ecological Reserve
  - Ravenswood Complex, including Pond SF2
  - Alviso Ponds A16 and A17
  - Warm Springs Ponds A22 and A23
- **Tier 2 sites:**
  - Mountain View Pond A1 – Haze gulls if roosting on historic Forster’s Tern colony
  - Coyote Hills Complex
  - Dumbarton Complex
- **Tier 3 sites:**
  - Mowry Complex
  - Alviso Complex (excluding A16, A17 and A1)
  - Radio Road, Redwood City
  - San Jose Water Pollution Control Plant (not visited by SFBBO but contacted land owner)
  - Sunnyvale Water Pollution Control Plant
  - Newark and Redwood City Plant sites (not visited by SFBBO but contacted land owner)
  - Palo Alto Baylands
  - Bair Island (not visited by SFBBO)

### **Survey Methods**

We began California Gull surveys on 30 March 2011 and completed the last survey on 6 June 2011. We surveyed Tier 1 sites three or more times a week, Tier 2 sites twice a week and Tier 3 sites once a week, with the exception of Bair Island, the Newark and Redwood City Plant sites and the San Jose Water Pollution Control Plant, which we did not survey at all. We used spotting scopes and binoculars to count all the California Gulls in the area and marked their locations on a geo-referenced map. We recorded the total number of gulls, their behaviors and numbers of nests. If there were gulls present at Tier 1 sites, we conducted hazing.

### **Hazing Methods**

When California Gulls attempted to breed in one of the Tier 1 sites, we conducted hazing activities to drive them from the site. Hazing techniques included human disturbance of roosting gulls by walking or driving through their roost site, blowing a whistle or making other loud noises to scare gulls away. We kept gull from roosting at the potential nesting site for at least one hour, twice a day until gulls were no longer attempting to nest in that area. We also removed nesting material and/or destroyed empty nests bowls in the area.

Each time we hazed the gulls, we recorded the number of gulls present before the hazing, their reaction to the hazing, and presence of nesting material or nests.

We did not conduct any hazing activities if we were within 500 meters of nesting Western Snowy Plovers, California Least Terns, Forster’s Terns, American Avocets or Black-Necked Stilts. We also avoided hazing in potential California Clapper Rail habitat.

## RESULTS

The only Tier 1 site where California Gulls attempted to nest was levee between Warm Springs ponds A22 and A23. We began hazing gulls at the site as soon as we began our surveys during the last week of March. During the first three weeks of hazing the gulls at Warm Springs, we observed an average of 120 to 313 gulls roosting on the levee between A22 and A23 (Figure 2). After five weeks of hazing, there were no gulls roosting on the A22/A23 levee (Figure 2).

We observed a total of 34 gulls copulating on the A22/A23 levee and a total of 26 gulls constructing nests. We destroyed 5 partially constructed nests at Warm Springs.

California Gulls established a new colony on the levees between Alviso ponds A9/A10/A11/A14, however this was a Tier 3 site, so we did not conduct hazing at that colony. We also found one pair of California Gulls nesting on the PG&E boardwalk in A3W. This was also a Tier 3 site therefore we did not conduct hazing. We did not find any other new gull colonies in the South San Francisco Bay, although we documented an increase in the numbers of gulls breeding at the established colonies Mowry and Coyote Hills.

## DISCUSSION

In 2011, SFBBO was successful in preventing California Gulls from nesting in the Tier 1 sites, including Warm Springs, where the gulls attempted to nest. We were limited in the type of hazing techniques we could use at Warm Springs because as we were working on a National Wildlife Refuge and near potential Western Snowy Plover nesting habitat. Human disturbance (walking, running and yelling) with whistles seemed to work well on deterring smaller groups of gulls (<400 individuals). The gulls would take off from the levee and either leave the area or roost on the small islands on A22. After a few weeks of hazing, the gulls would leave the area when we conducted hazing activities.

While we were successful in keeping California Gulls from nesting at Tier 1 locations in 2011, gulls may attempt to nest at Tier 1 sites in 2012 if no hazing activity occurs. In particular, California Gulls may again attempt to nest at Warm Springs. Thousands of California Gulls roost a Warm Springs in April, just prior to breeding season, likely due to the fact that Warm Springs is located between two landfills and roosting there allows gulls to be in close proximity to the landfill food sources.

The majority of the California Gulls displaced from the A6 colony nested on the levees between Alviso ponds A9/A10/A11/A14 (Robinson-Nilsen et al. 2011). We had decided this area was a Tier 3 area because it was so close to the former A6 colony and the gulls nesting on A9/A14 would have a similar impact to other nesting waterbirds as the gulls nesting on A6. This colony does have the potential to impact the Double-crested Cormorants nesting on the A9/A10 colony. The cormorants are more sensitive to human disturbance than the gulls and could be greatly impacted from researchers disturbing them.

## RECOMMENDATIONS

We recommend the following management activities to address the growth of the California Gull population in the San Francisco Bay:

1. Continue California Gull surveys and hazing activities at Tier 1 in the 2012 breeding season. Gulls may attempt to establish nests in ecologically sensitive areas in the coming years.
2. Investigate oiling or addling eggs as a method to reduce California Gull nest success. These methods may reduce disturbance and limit predation, which would limit renesting attempts by gulls whose first nest was depredated. However, in areas where nest predation is high, oiling or addling may not be as successful at reducing renesting attempts by those gulls.
3. Monitor California Gull nest survival, chick growth and chick survival rates to determine if California Gull population growth in San Francisco Bay is due to local breeding success or is being supported by emigration of California Gulls from colonies outside of the Bay Area. Further study is needed to assess California Gull reproduction demographics at colonies throughout the San Francisco Bay Area

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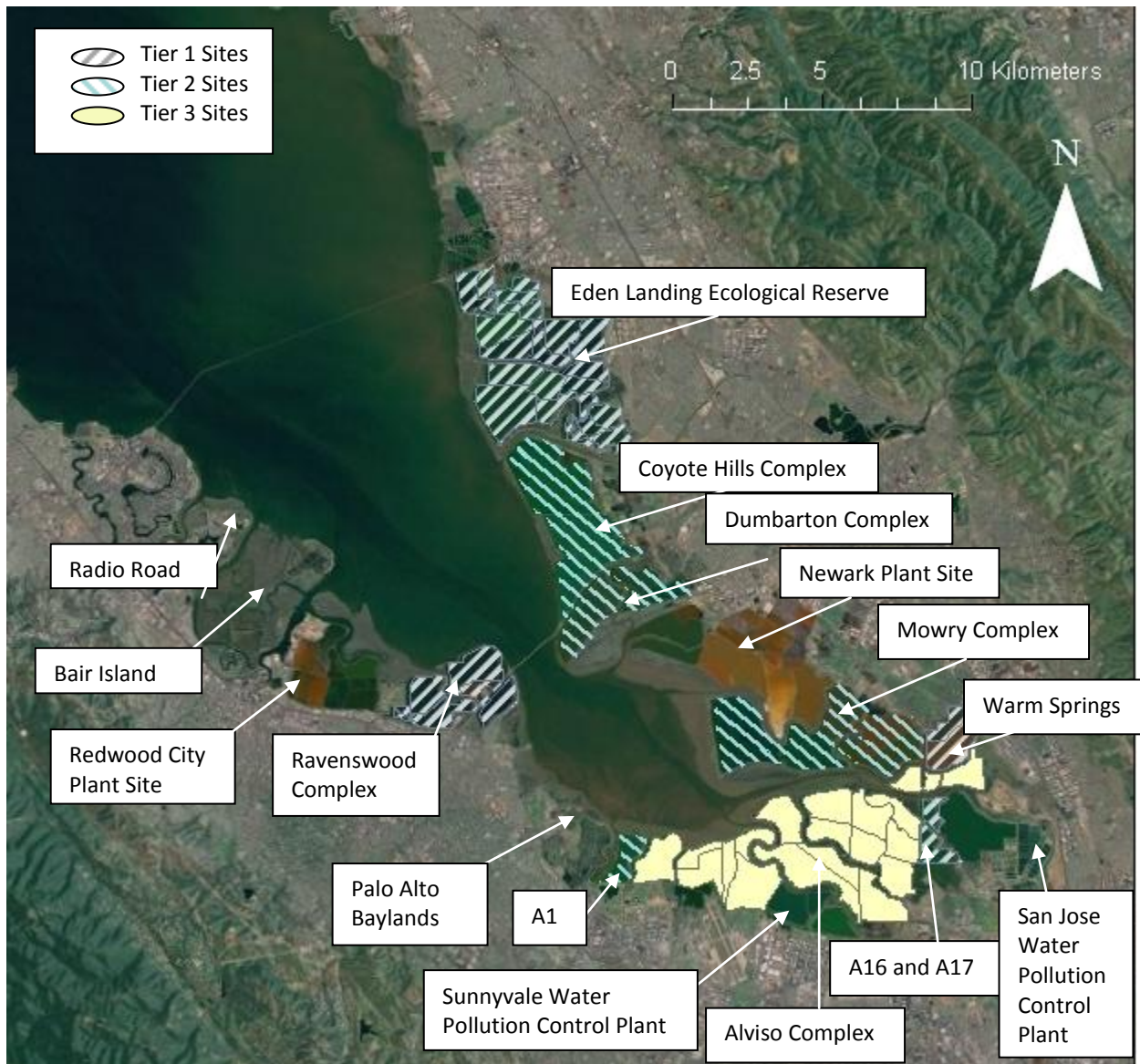


Figure 1. Map of potential California Gull nesting areas in the South San Francisco Bay, California, 2011.

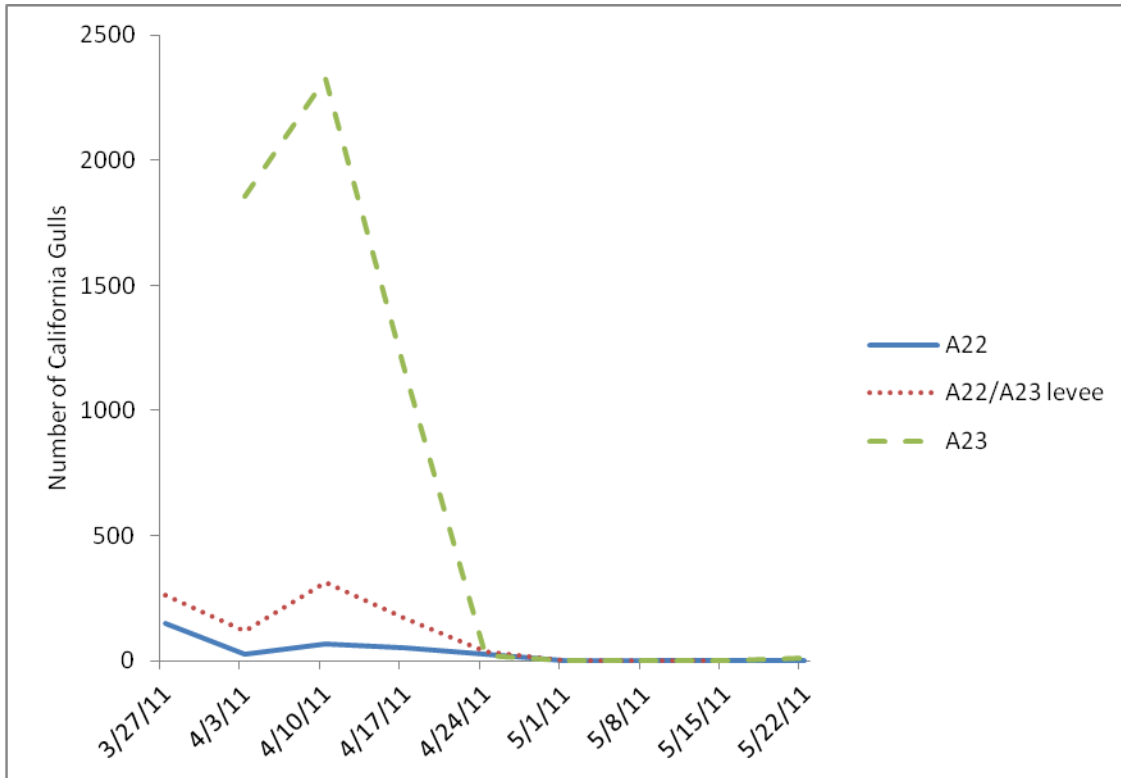


Figure 2. The number of California Gulls present in the Warm Springs ponds in the South San Francisco Bay, California, 2011.