

Santa Ana River Mouth Monitoring Project 2023 Annual Report



Orange County Coastkeeper (Coastkeeper) is a nonprofit clean water organization that serves as a proactive steward of our fresh- and saltwater ecosystems. We work collaboratively with diverse groups in the public and private sectors to achieve healthy, accessible, and sustainable water resources for the region. We implement innovative, effective programs in education, advocacy, restoration, research, enforcement, and conservation.

The Santa Ana River Mouth Monitoring Project (SAR Project) enlists volunteers, community groups and local government to monitor human, dog, and bird activity in the Santa Ana River Mouth area, a 13.2-acre parcel of land that is owned by four agencies: the California State Lands Commission, California State Parks, the County of Orange, and the City of Newport Beach. Due to the fragmented ownership of the area, management of activities and law enforcement in the area have been difficult. The 2023 SAR Project covered in this report (January 2023 through December 2023) was run as an ongoing project by Orange County Coastkeeper with funding from the California Coastal Conservancy. The goal of the SAR project is to monitor human, dog, and bird use of the area and to provide education and outreach to residents and visitors about the Wildlife Management Area at the Santa Ana River Mouth and the endangered species that reside within it.

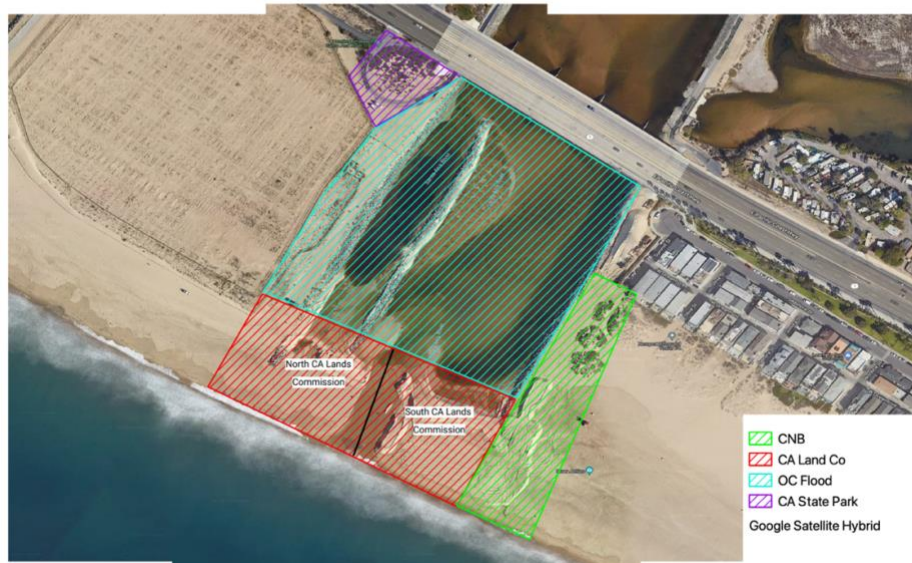
EXECUTIVE SUMMARY

Monitoring of the area for this project began on February 9th, 2021. Final revisions of the study protocol were completed by March 23rd, 2021, and all subsequent surveys followed a standard protocol that is used for all surveys.

Between January and December 2023, 1,869 surveys at the Santa Ana River Mouth were completed by 12 trained volunteers and 5 staff members. In the surveys collected, 21,452 people and 2,938 dogs were observed. Of the dogs, 1,878 were off-leash and 1,060 on-leash. Dogs off-leash accounted for 64% of the dogs observed. There are current regulations in the project area that prohibit dogs from being off leash on the beach at any time. Dogs on leash are only allowed on City of Newport Beach jurisdiction before 10:00AM and after 4:30PM. These regulations are set in place to protect the sensitive wildlife area and lessen visitor impacts. In our surveys, Law Enforcement Officers are considered individuals with the authority to enforce the regulations in or around the Santa Ana River Mouth area, including the multi-use trail on CA State Parks property. Law Enforcement Officers (LEO) were present 392 times throughout all surveys completed in this time period, with the Lifeguard observed most frequently followed by the Sheriff. Other public officials that were not law enforcement include OC Public Works. No citations were observed to be issued, despite a majority of the dog observations occurring outside of designated hours. However, 38 visitors were contacted by law enforcement officers and 6 were contacted by other public officials. A visitor contact does not have to include a citation but is simply the observance of communication between a beach visitor and any LEO or public entity (OC Public Works staff and contractors).

MAP AND PROJECT BOUNDARIES

SAR Project Survey Boundaries



Map of Santa Ana River Mouth with property names overlaid to correlate with data sheets. California State Lands Commission property was split into North and South portions, divided by the location of the river mouth during surveys, to better analyze land use in the area

CASP= California State Parks, **CNB**= City of Newport Beach, **N CA Land Co**= North California State Lands Commission, **OC Flood**= Orange County Flood Control, **S CA Land Co**= South California State Lands Commission

Law Enforcement: Sheriff, Police, Lifeguard, OC Parks, CA State Parks, and CNB: Animal Control. **Public Officials:** OC Public Works. **"Other" LEO:** Unidentified law enforcement

GRAPHS

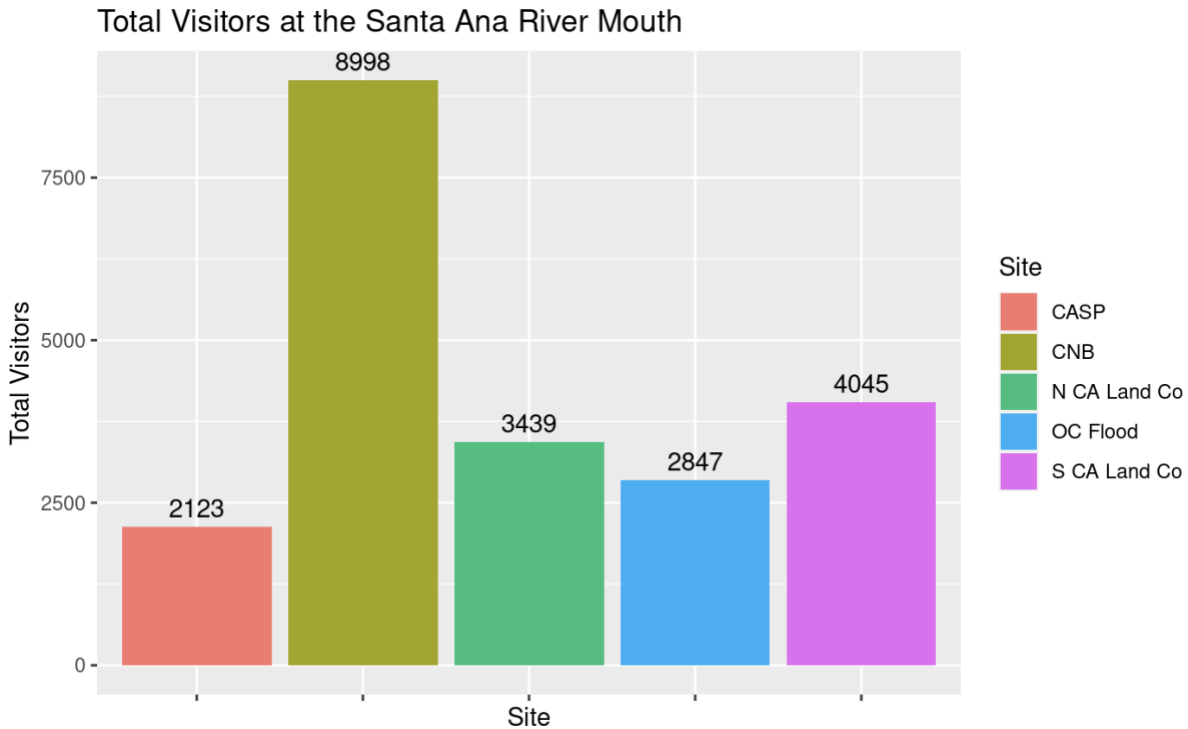


Figure 1. Visitors Based on Location

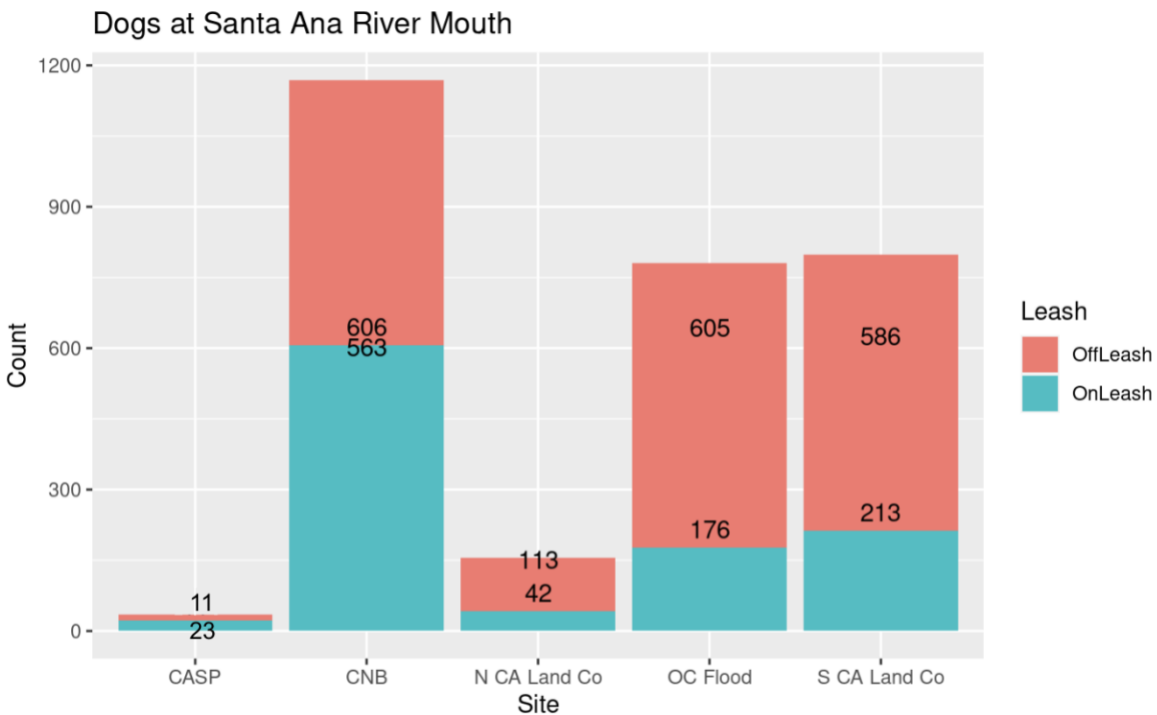


Figure 2. Dogs Based on Location

A total of 2938 dogs were recorded at the Santa Ana River Mouth; 1060 (36%) were on leash and 1878 (64%) were off leash.

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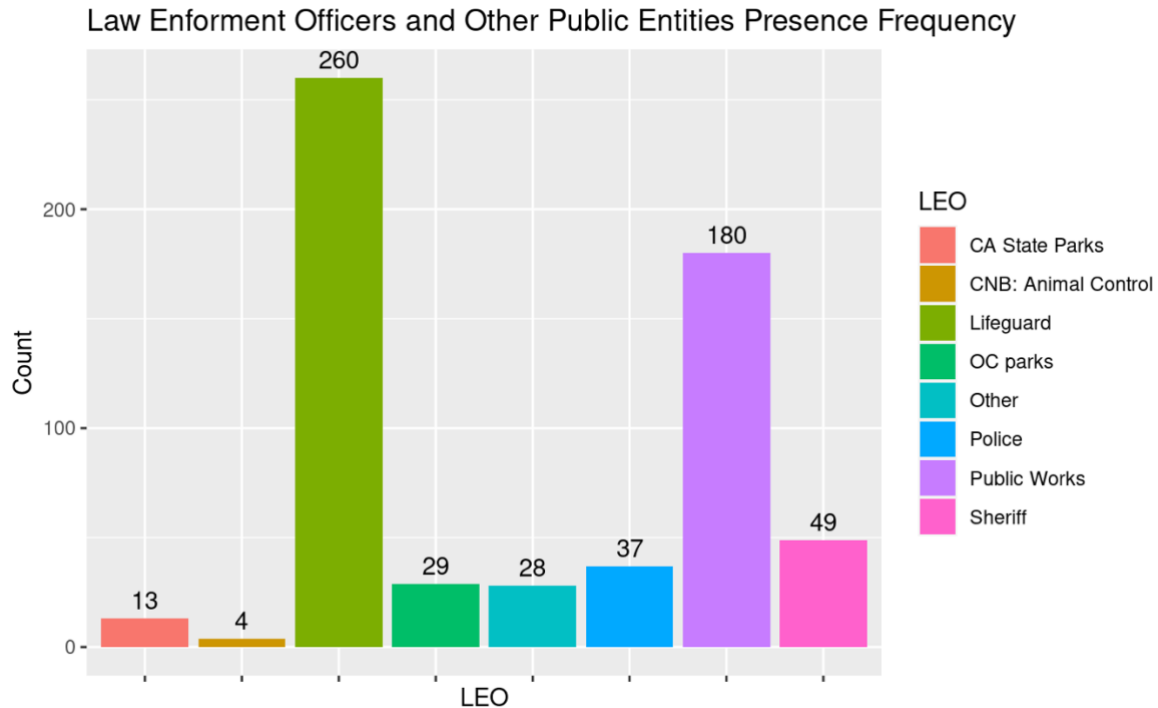


Figure 3. Law Enforcement Officers (LEO) and Other Public Entities Frequency

A total of 392 law enforcement officers and 208 representatives of other public entities were present during observational surveys. There was a total of 38 visitor contacts made by various law enforcement officers and 6 visitor contacts from other public officials.

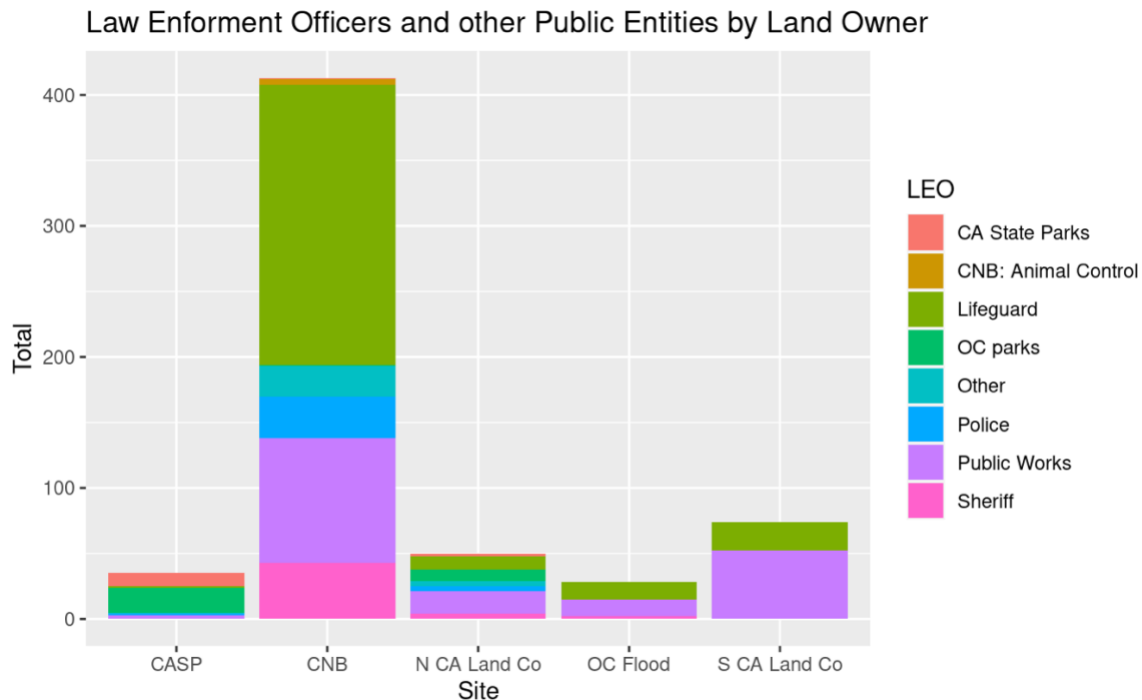


Figure 4. Law Enforcement Officers and Other Public Entities by Location

This figure illustrates where LEOs and representatives of public entities were located at the time of observation, which does not imply that is the jurisdiction that they are enforcing.

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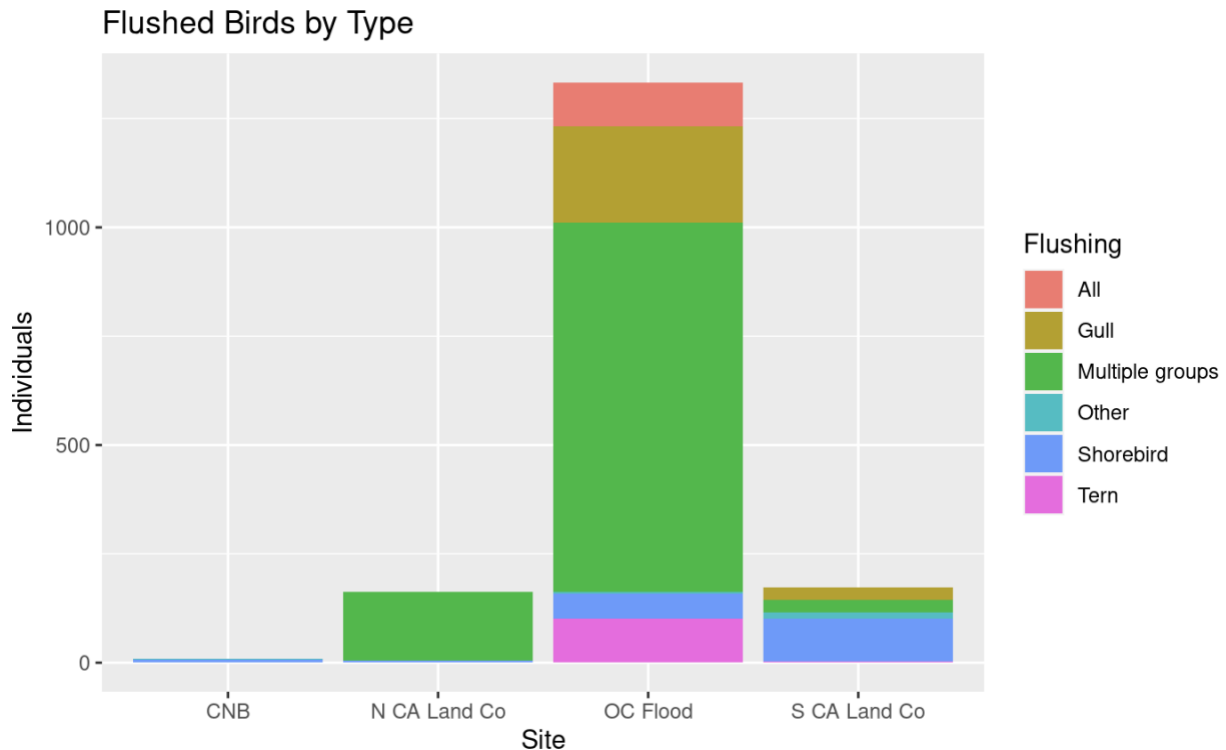


Figure 5. Bird Disturbances by Location

Bird disturbance, also known as Flushing events, are defined when birds are present on a part of the beach and are approached by humans and/or dogs and they depart the beach. A total of 87 flushing events affecting 1681 individual birds occurred in OC Flood and South California Lands Commission jurisdiction. 32% of birds flushed included a mix of terns, gulls, and shorebirds, 29% of birds flushed were shorebirds, 20% of birds flushed were gulls, 16% consisted of other bird species, and 3% of birds flushed were terns.



Photo: Two Off-Leash Dogs Flushing Birds in OC Flood Jurisdiction

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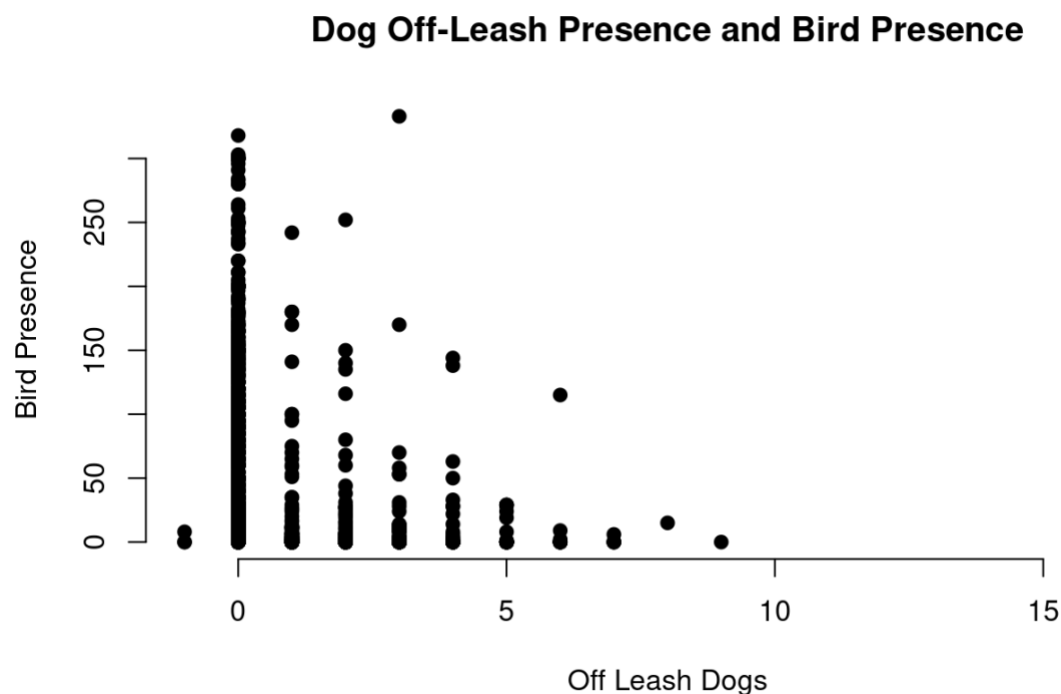


Figure 6. Correlation Analysis of Off-Leash Dog Presence and Bird Presence

We ran a correlation analysis in order to understand the association between off-leash dog presence and bird presence in 2023. We wanted to see if the presence of off-leash dogs would be associated with fewer birds present in the Santa Ana River Mouth. In the graph, there are more birds when there are less off-leash dogs present and there are less birds when there are more off-leash dogs present. Thus, off-leash dog presence had a significant association with lower bird presence (p-value =2.541e-08).

DISCUSSION

Visitors at the Santa Ana River Mouth were most observed within the CNB boundaries followed by the S Lands Commission boundary (Figure 1). This is reflected with the majority of dogs also observed most in CNB and S Lands Commission with a majority (64%) of all dogs observed at the river mouth were off leash (Figure 2). It is hypothesized that high human and dog traffic to these areas may result in fewer bird observations. The data confirms this as there are far less birds in these areas. Most birds were located in the OC Flood jurisdiction, away from central beach access. The OC Flood area also experienced the highest amount of bird disruptions as a majority of flushing events took place within this area. (Figure 3) Flushing affected a mix of terns, gulls, and shorebirds. According to our data, the OC Flood area had the highest bird observations, however the birds are typically seen on the north side of the river mouth or on a sandbar in the middle of the channel where fewer visitors and dogs are observed. On some occasions, humans and dogs would trespass into the channel and disturb the bird populations that were located on a sandbar in the middle of the channel.

Law enforcement officers (LEO) were most often seen within the CNB boundary (Figure 5); however, the results are an indication of where LEO's were present and not which jurisdiction they were enforcing. Through our observances, we learned that the Sheriff would often be parked on either CNB or North Lands Commission and enforce only the river mouth regulations. The Lifeguard was the most frequently seen LEO followed by the Sheriff (Figure 5). Due to a large-scale sand dredging and beach nourishment project by OC Flood Control, OC Public Works was also a high presence in the South California Lands Commission and CNB jurisdictions.

In an October permit hearing by the State Lands Commission, representatives of OC Flood recognized the convoluted land jurisdictions in this area and agreed to work on educating visitors on CNB regulations to protect the sensitive wildlife area. However, we observed few instances of visitor contacts specifically regarding the dog rules in Newport Beach despite the high presence of representatives of public entities.

In the correlation analysis, we can conclude that higher off-leash dog presence was associated with lower amounts of birds present at the river mouth (Figure 6). Though correlation does not imply causation, the small p-value of $2.541e-08$ demonstrates the significant pattern between off-leash dog presence and low bird abundance in this area. When there are more dogs that are off leash, this poses a potential threat to the birds that inhabit this area. The predators of these birds include animals like coyotes, to which domestic dogs look very similar. This is why there are far fewer birds when there are more off-leash dogs present since they look like the birds' predators. The birds that inhabit the river mouth are constantly in survival mode and it is important that they are cautious of their surroundings at every moment. This means there is more energy expended for gathering resources and steering clear of predators. Off-leash dogs put these birds in unnecessary stress and cause them to lose opportunities to forage, mate, or nest. Considering some of these birds in this area include endangered and threatened birds like the Western Snowy Plover and California Least Tern, caution must be exercised by visitors to prevent threats to these protected species. It is incredibly important for dog-owners to keep their dogs on a leash when they choose to visit this area in order to avoid scaring birds out of their habitat, causing them to abandon the processes they need to survive.

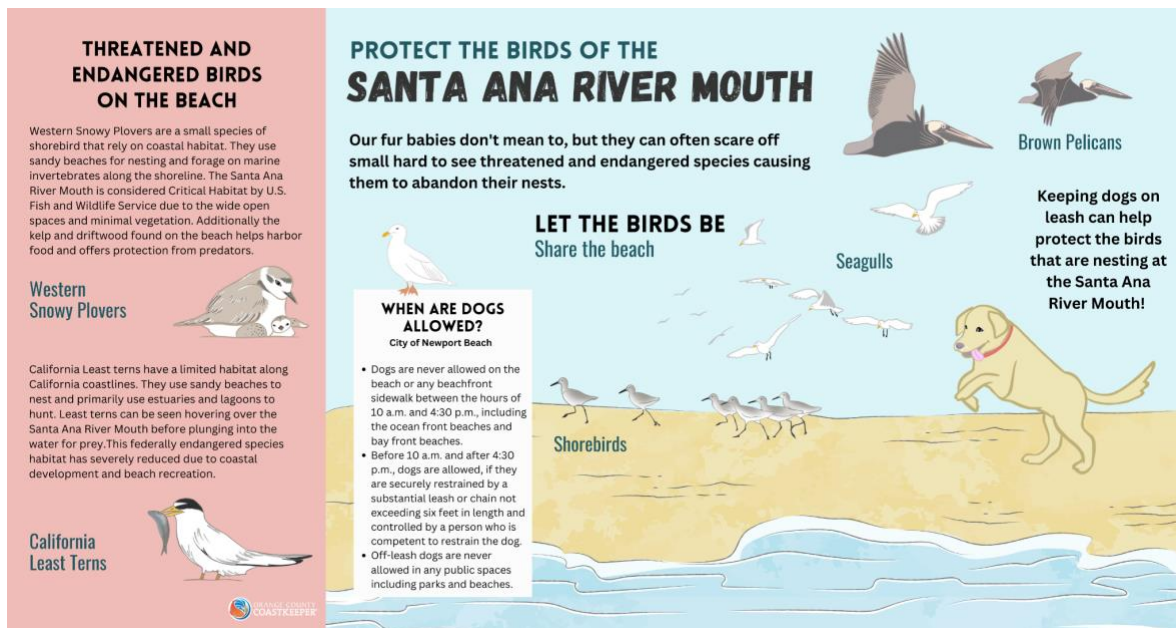
Volunteer Training

All volunteers undergo a standard training before doing surveys. Training started with a brief educational presentation of the project along with trainees being provided materials relating to the project including past reports. Volunteers then met with Volunteer Coordinator Sabrina Medina or Program Assistant Christina Giudice at the Santa Ana River Mouth to go over the monitoring protocol and the property map in person. Volunteers were trained to understand the land manager boundaries, monitor human recreation use, and were given bird ID guides in order to identify the different bird species. In addition, volunteers were instructed how to fill out the data sheet with specific techniques and were given access to the standard operating protocol for the surveys.

Outreach Table



During this project, Orange County Coastkeeper was able to conduct an outreach table for beach visitors. Visitors were given pamphlets detailing information about California Least Terns and Western Snowy Plovers. Additional information about the laws regarding dogs in the area and free biodegradable waste bags were provided to visitors as well. Challenges for our public outreach included issues with volunteer recruitment and retention and the beach dredging project in the Fall which obstructed beach access. Overall, OC Coastkeeper has engaged with 176 visitors during observational surveys and outreach events in 2023.



This informational banner used at outreach events highlights the endangered and threatened species of birds and the City of Newport Beach dog rules.

Other Updates

The project has been facing many changes this past year and staff members have exercised several different options as a response. Due to the dredging project beginning October 16, 2023, and continuing into 2024, there were fences and heavy machinery covering the beach on Mondays through Fridays from 8AM to 5PM which interfered with some outreach and visitation. Surveyors have tried alternating locations for survey acquisition by walking over to the California State Parks side in order to gain another perspective and using long-range cameras for better view. However, we were still able to set up for outreach and surveys during this time. Additionally, we observed several contracted biologists communicating with the public about the endangered and threatened species of birds that reside in the river mouth. Also, several OC Public Works officials would warn people to stay clear of the machinery that resulted from the sand dredging project. The ever-changing landscape of the Santa Ana River Mouth has caused us to be more flexible in our procedures.

Next Steps

With additional funding from the California Coastal Conservancy, we are thrilled to continue onto our next steps with this project. This includes additional volunteer recruitment from the local community, continuation of the outreach table, and gathering surveys with new updates. We plan on creating more informational presentations for incoming volunteers as well as more interactive forms of outreach in order to connect with the public.