

# **First Time Rehabilitation of the Western Snowy Plover at the Santa Barbara Zoo**



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*The Santa Barbara Zoo was contacted by Aimee Greenebaum from MBA in 2014 – Some plovers from this county were being transported all the way to Monterey. Could we be a resource to rehabilitate abandoned eggs and chicks?*

*Would this fit into our Zoo Mission and Conservation Strategy? Let's take a look -*

*How much would we need in start-up costs? What permits were needed? How would we train our staff?*





*At the Santa Barbara Zoo, our conservation strategy has been to work in our backyard. Santa Barbara is in a region called a biodiversity hotspot, one of 35 regions in the world identified by Conservation International as “places on earth that are both biologically rich and deeply threatened.*

*We champion local species, send a LOT of staff (and volunteers) into the field. This strategy maximizes our operational benefit by reducing our footprint and travel expenses, and it gives a great flexibility with scheduling.*

*Some of these projects include the Channel Island Fox (USFWS), CA red-legged frog and arroyo toad (Los Padres Nat’l Forest and Santa Monica Mountains, monarch butterfly surveys, sea otter monitoring (USGS), and....*





## *The California condor*

*By 1985, habitat loss, poaching, and lead poisoning had decimated the population of California Condors – there were only nine left in the wild. The **USFWS** captured the remaining condors with the hope of saving what was left of the species while the cause of the decline was determined. These condors were to be bred at zoological institutions in captivity, and the population could be grown to the point where repopulating the wild was possible. Beginning in **1992**, the Service began **reintroducing captive-bred** condors to reestablish a wild population. The Recovery Program is working toward the goal of establishing two separate wild populations of condors. There are currently release sites in California, Arizona, and Baja, Mexico. SBZ partners with USFWS in managing the population in SoCal and with the Service created a nest guarding program in SoCal. We have increased nest success tenfold since the inception of that program.*





Photo By Coal Oil Point Reserve



Photo By [westernsnowyplover.org](http://westernsnowyplover.org)

Western snowy plovers are listed at *threatened* by the Endangered Species Act (1993) and are a California Bird Species of *Special Concern*.

The shorebirds nest from *Point Damon in WA to Bahia Magdalena in Baja, Mexico*. Nest sites are small depressions in the sand, about the depth of a footprint. Nest sites are just about the high tide line on sand spits, coastal beaches, dunes with little vegetation and at lagoons or river bars. The breeding season last from *March – September*.

Male and female share nesting duties, though the females are *polyandrous* and will leave the sire and chicks shortly after hatch to mate again if males are available.





## Breeding Sites in 2006\*

- “Significant Decline” in CA
- 65% decline in OR
- 40% decline in WA

\*Compared to historical breeding sites

## Threats Include\*

- Human disturbance
- Predation
- Encroachment of non-native grass
- Urban development

\*Source: USFWS



Photo By USFWS

Chicks are ***precocial***, and they leave the nest within hours of hatching. They forage for small ***invertebrates*** along the tideline and among kelp.

Population decline: \*(Source fws.gov)

People and dogs on beach are common deterrents to successful nesting. A plover will flee when threatened by a perceived predator and will often abandon the nest site. Common predators include skunks, northern harriers, and foxes. European beach grass has covered many nest sites, choking out dunes, and urban development increases traffic or removes nest site options.

The species definitely fit the model of our conservation strategy! Next, we needed to get approval.



## **Institutional Approval? Challenge Accepted!**



*Challenge: Budget out of Budget Cycle. I asked myself these questions:  
How much would we need in start-up costs? What permits were needed? How would we train our staff?*

# Budget? Challenge Accepted!

*What I asked for -*

*Total investment: \$4,000*

*Training, Flight Pen,*

*Hatcher and Misc. Supplies*

*+ Contingency*



Photo By USFWS – Pacific Region





*I made a presentation to key Director's - Showed some really cute photos. Who could say no to this face?*

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- 
- Migratory Bird Office
    - Rehab permit
  - USFWS
    - Recovery Permit Amendment
  - CDFW
    - SCP

## **Permits? Challenge Accepted!**

*Approved! - Zoo approval in January 2015*

*Started permits right away*

*Challenge: Permits: 2015-2016 – it took nearly a year and a half!*

*We used the time to train staff with MBA staff during the 2015 plover season.*



Photo By Santa Barbara Zoo





**Space? Challenge Accepted!**

*Challenge: Identifying a space*

*In the hallway (space meant for animal recovery, that serves a lot of purposes)! Other Species raised in this area: penguin, flamingo, duck, pheasant, anteater, fox and lion*

*We had to consider quarantine – keeping our birds safe.*

*We were ready!*







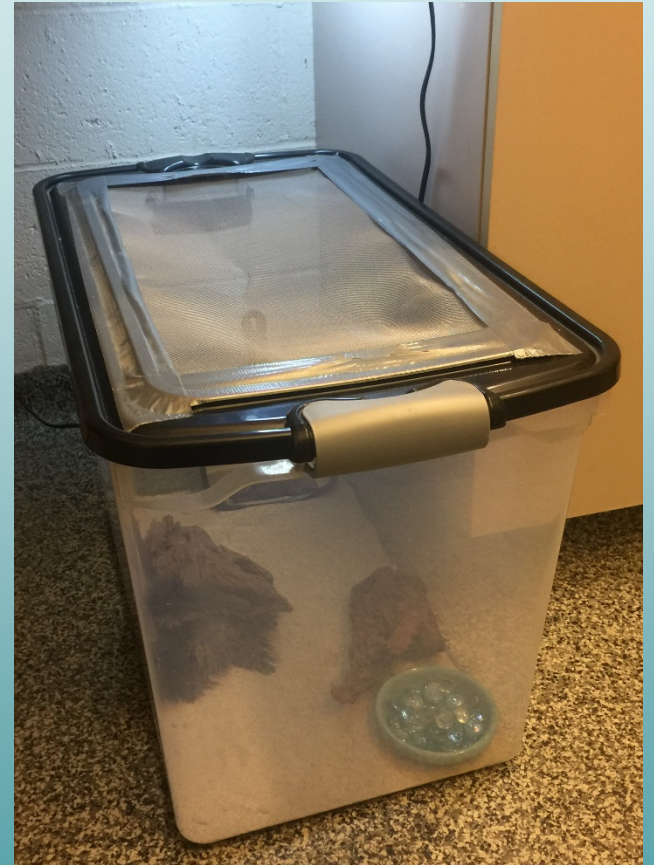
Photo By Santa Barbara Zoo



Photo By Santa Barbara Zoo

I'd like to take you quickly  
through our season -  
The First Two: both came to  
us after hatch from Coal  
Oil Point  
Hatch Dates: 5/5 and  
5/17  
Stage One: AICU – one  
hour to 2 days





Stage Two: Indoor tank – 2 days to 10 days

- Feed schedule
- Daily weights
- Encourage eating





Photo By Santa Barbara Zoo

*Flight Pen – 25 to 35 days (old enough to release)*

- *Ween from heat*
- *Scatter food*



# Rearing – Flight Pen

*Flight Pen – 25 to 35 days (old enough to release)*

*Ween from heat – Scatter food*





*Slowly reduced access to heat and hiding places.*

*Banding*

*Chicks were 49 and 37 days old at release.*

*Chicks were moved up to the flight pen separately. There was some aggression from the older chick when we introduced the younger one, so we put the younger one in a clear container. They could see each other. Within about 48 hours, they were sitting next to each other, one in and one out of the tub, so we removed the container. The birds did just fine after that.*







Photo By Santa Barbara Zoo





Photo By Santa Barbara Zoo

Release on 6/23, Coal Oil Point Reserve



Photo By Santa Barbara Zoo

# Assisted Hatch



*Next, I'd like to walk through the only other viable chick of the season.  
Video – start at 17.55 seconds – Assist hatch*





*A third Chick – arrived partially hatched from  
Oceano Dunes on 8/12*

*Chick Hatched 8/13,*

*Fractured Right tibiotarsus four days after moving to  
the tub set up*

*– died under GA while attempting to splint leg*







*Fractured Right tibiotarsus – died under GA while attempting to splint leg*

*Pathology showed some metabolic bone disease – could have been this individual, but will monitor calcium supplements closely for future chicks*

# 2016 Season Wrap Up

- Rescued Chicks
  - Two chicks reared and released
  - One chick arrived, died the following day
- Rescued Eggs
  - One early embryo death
  - One undetermined fertility
  - One hatched, survived for 14 days

# 2016 Season Wrap Up

<u>Arrival Date</u>	<u>From</u>	<u>Notes/Release Date</u>
<b>5-May</b>	<b>Coal Oil Point</b>	<b>6/23, Coal Oil Point</b>
<b>17-May</b>	<b>Coal Oil Point</b>	<b>6/23, Coal Oil Point</b>
<b>26-Jul</b>	<b>Morro Bay WCN</b>	<b>N/A, died 7/27</b>
<b>9-Aug</b>	<b>Oceano Dunes/State Parks</b>	<b>Egg, no development, could not confirm fertility</b>
<b>12-Aug</b>	<b>Oceano Dunes/State Parks</b>	<b>Egg with pip - hatch 8/13</b>
<b>12-Aug</b>	<b>Oceano Dunes/State Parks</b>	<b>Egg, early embryo death</b>



# Thank you to our partners!

- USFWS
- CDFW
- Migratory Bird Office
- Monterey Bay Aquarium
- Santa Barbara Wildlife Care Network
- Coal Oil Point Reserve
- Point Blue Conservation Science
- CA State Parks
- Santa Barbara Zoo Staff

*We are so grateful to have the opportunity to work with you!*







**New Partners? Challenge Accepted!**

*Western Snowy Plover Rangewide Meeting*  
**JANUARY 18-19, 2017 • SANTA BARBARA ZOO, CALIFORNIA**

Photo By USFWS

*Challenge: New Partners in addition to the state and federal agencies. First time zoo visitors!  
We were really able to share our expertise, and our capacity to contribute to conservation!*

*Another example of how well we know wildlife.*

*Point Blue Conservation Science – SF Bay Bird Observatory*

*Humboldt State University – CA Academy of Sciences*



*Chick observed on the beach on 1/17/17!*



Photo By Grace Loehner



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