



SAN FRANCISCO BAY  
BIRD OBSERVATORY

Avian Disease Prevention Program  
Volunteer Manual



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# Avian Disease Prevention Program (ADPP) Volunteer Manual

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## **About SFBBO**

The San Francisco Bay Bird Observatory is a not-for-profit organization dedicated to the conservation of birds and their habitats through research, monitoring and educational activities. We provide scientific information to governmental agencies, industry, and the public to support informed resource management decisions for the San Francisco Bay area. SFBBO was founded in 1981 by a group of enthusiastic biology students from San Jose State University.

Birds are excellent indicators of the health of ecosystems: they are highly visible and cost-effective to monitor, and are sensitive indicators of environmental change. They are also a great way to expand people's appreciation for their local environment.

We study the birds that live in the salt ponds, marshes and creeks of the South Bay. Our biologists use nearly 75 trained volunteers in our fieldwork and have generated over 100 reports and publications that are used to make critical land management and conservation decisions.

## **SFBBO's ADPP Orientation**

### *Introduction*

The San Francisco Bay Bird Observatory monitors Artesian and Guadalupe Sloughs by boat for the cities of San Jose and Sunnyvale. The municipalities are required to monitor for avian botulism in order to release treated fresh water from their facilities. Under contract, we monitor by boat on a weekly basis from June through November. During our weekly boat surveys, we collect all dead, sick and injured vertebrates to prevent the spread of disease.

Our surveys are completed by staff biologists, with the help of 1-2 volunteers each survey. Volunteers should expect that the survey will take about 4 hours from start to finish (and possibly longer if there are many sick birds).

### *History*

SFBBO began monitoring South Bay sloughs for avian botulism in 1982. Since then, there have been 6 large die-offs of waterbirds and several smaller outbreaks. The largest outbreak occurred in 1998 with 900 afflicted birds in San Jose and 500 in Sunnyvale; outbreaks also occurred throughout the western U.S. In 2004, there was also a large outbreak in the San Jose Water Pollution Control Plant ponds, Coyote Creek Lagoon and some managed ponds owned by the National Wildlife Refuge.

## What is botulism?

The *Clostridium botulinum* toxin affects birds worldwide. Waterfowl and shorebirds are most susceptible, followed by gulls, herons and raptors. *Clostridium botulinum* occurs naturally within bacteria in anaerobic soils. It is ingested by birds either directly or indirectly (through invertebrates). The toxin is absorbed through the small intestine and affects the voluntary muscles of birds. This leads to paralysis of the wings, legs, neck and nictitating membrane (eyelids). The cause of death is usually respiratory failure or drowning as a result of paralysis.

The *botulinum* toxin spreads naturally in soils under suitable weather and water conditions. It is associated with permanently flooded marshes and spreads most readily through warm, brackish, shallow water with low dissolved oxygen concentrations. Large concentrations of dead vertebrates can lead to an outbreak. Flies laying eggs on different carcasses also spread the bacteria and the toxin; therefore, scavengers are important in limiting the spread of the disease.

Birds that are caught during the early stages of the disease respond well to treatment. Basic first aid includes rehydration and flushing the toxins from the digestive system. During rehabilitation at animal care facilities, there is a 70% recovery rate.

## Overview of Avian Diseases and injuries

### A. Avian Botulism

1. Disease caused by ingestion of a toxin produced the bacteria, *Clostridium botulinum*
2. Symptoms include gradual paralysis affecting wings, neck and eyelid muscles
3. Common species affected by botulism in the South Bay: Gadwall, Mallard, Northern Shoveler and teal

### B. Aspergillosis

1. Respiratory infection caused by inhalation of the common black mold, *Aspergillus niger*
2. Primarily affects gulls feeding at the local landfills
3. Symptoms includes the inability to fly, often gasping or labored breath through the mouth

### C. Avian cholera

1. Caused by bacterium, *Pasteurella multocida*
2. Locally uncommon disease in birds characterized by rapid die-offs of large numbers of birds, few if any sick birds.
3. Symptoms include lethargy, swimming in circles, erratic flight, and convulsions.

### D. Cyanobacterial poisoning

1. Caused by blue-green algae blooms

2. Occurs locally in sewage ponds
3. Symptoms include stupor, unconsciousness, falling over, quiet as if asleep and convulsions with head and neck drawn back

#### E. Injuries

1. Most commonly wing or feet injuries
2. Caused by collisions, damage from predators, or unknown
3. Symptoms include inability to fly, bloody feathers, poor physical condition: thin, lethargic or weak

### **ADPP Volunteer details**

#### Timeline

##### Artesian Slough

1. Weekly boat surveys in Artesian Slough from June - November
2. Daily trips if there is an outbreak

##### Guadalupe Slough

1. Monthly boat trips in Guadalupe Slough from June – November
2. Daily trips if there is an outbreak

#### Volunteer Jobs

1. **Observer** to help detect any sick, dead or injured birds in the slough
2. **Netter** to pick up any dead, sick, or injured birds observed (with gloves and eye protection!)
3. **Data recorder** to accurately record observations during the survey
4. **Boater's assistant** to help the SFBBO biologist prepare, launch and maintain our boating equipment
5. **Transporter** to take sick and injured birds to wildlife rehab at the end of each survey

#### Things to keep in mind

1. Our surveys require at least 4 hours to complete. Surveys are timed according to weather and tides.
2. Wear layered clothing that you don't mind getting dirty and wet; rubber boots or shoes you don't mind getting muddy are necessary
3. Bring a snack, water, sunscreen, hat, binoculars
4. All volunteers must be members of SFBBO for insurance purposes

#### Benefits

1. Bird-watching behind a locked gate
2. An up-close and personal view of the south bay sloughs
3. *Helping our local wildlife- one bird at a time!*

**List of contacts**

SFBBO

**Natalie Washburn**

Waterbird Program Director  
408-946-6548 ext. 13  
[nwashburn@sfbbo.org](mailto:nwashburn@sfbbo.org)

**Victoria Heyse**

Waterbird Field Biologist  
408-946-6548 ext. 12  
[victoria@sfbbo.org](mailto:victoria@sfbbo.org)

Wildlife Rehabilitators

**Wildlife Center of Silicon Valley >>>**  
3027 Penitencia Creek Rd, San Jose, CA  
(408) 929-9453

**Humane Society of Silicon Valley**

901 Ames Ave, Milpitas, CA  
(408) 262-2133  
*Note: will take wildlife after-hours to transfer to Wildlife Center of Silicon Valley*

**How to Contact Us**  
Wildlife Center of Silicon Valley  
3027 Penitencia Creek Road  
San Jose, California 95132

WCSV's 7th Annual Open House, "Walk on the Wild Side!" Bow Wow Productions Presentation

408.929.WILD  
www.wcsv.org

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This is a leased facility of the Santa Clara County Parks and Recreation Department

**Emergency information form**

Please fill out and return this form and send/give it to SFBBO staff.

**VOLUNTEER MEDICAL INFORMATION FORM**

NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_  
\_\_\_\_\_

PHONE NUMBER: \_\_\_\_\_

NAME OF PERSON TO CONTACT IN CASE OF EMERGENCY:

\_\_\_\_\_

PHONE NUMBER \_\_\_\_\_ RELATIONSHIP \_\_\_\_\_

ALTERNATIVE CONTACT PERSON: \_\_\_\_\_

PHONE NUMBER \_\_\_\_\_ RELATIONSHIP \_\_\_\_\_

Do you have any special medical condition that may limit your ability to perform the volunteer work detailed above? \_\_\_\_\_

If yes, please specify:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Do you have any allergies that SFBBO or fellow volunteers should be aware of should you experience an allergic reaction while volunteering? \_\_\_\_\_

If yes, please specify:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Vehicle license number: \_\_\_\_\_

Insurance carrier: \_\_\_\_\_