## **Waterfowl Protocol**

The survey protocol below is modified from: John Y. Takekawa U. S. Geological Survey Western Ecological Research Center San Francisco Bay Estuary Field Station Vallejo CA

## **Observation Points**

Establish observation points at enough sites to provide views of the entire survey area. This can be the entire wetland or a defined portion of the wetland. The total visible survey area should be outlined on a site map. Boundaries should follow natural breaks, visible barriers, and wetland edges so that future observers can easily define and use the same survey area.

Record GPS at each Observation Point and describe the location using physical cues such as shoreline features, boulders, sight lines or any other enduring feature that can be used to find the same point.

## **Survey**

Since waterfowl are typically more active at dawn or dusk, surveys during those periods increase variation and should be avoided. Surveys should not be conducted in high winds (> 30 kph), heavy fog, or heavy rainfall.

Choose a date after which migrants are mostly gone. Count on 3 separate occasions during a 2-3 week period and keep highest count.

For each survey use the datasheet to record: date, start time, end time, location, observers, weather (temperature, wind speed and direction, sky cover, precipitation). Also note number and types of disturbances (human, predators, noise, etc.).

For each observation use the datasheet to record: species (if unknown identify as diver or dabbler), sex; number.

*Equipment* 

Binoculars

Spotting scope and tripod (optional but helpful, particularly if trying to survey a large area) GPS

Area map and directions to site

Site map, description, and survey locations and coordinates

Datasheet – paper or tablet