Migratory Bird Conservation Partnership
Fallow Field Shorebird Survey Protocol 2011

PLEASE READ: *The usefulness of data collected as part of these surveys requires that all observers closely follow the protocol outlined here. Please read the protocol and associated documents thoroughly before conducting a survey. If you have any questions please contact Khara Strum (kstrum@prbo.org) or Monica Igelica (migelcia@audubon.org). Thank you in advance for your hard work and enthusiasm for birds.*

SURVEY DESIGN

Each survey consisits of a series of counts for shorebirds and other waterbirds in a fixed area of shallowly flooded fallow rice fields. Survey areas extend 200 meters into the rice field and are bounded on each side by internal field levees. A stake with the **survey location** marks where surveys should be conducted. The survey location is unique to each point surveyed and does not change between surveys. It is a three digit number followed by a letter. Wooden stakes placed on the internal field levees 200 meters from the end of the field mark the boundary of the survey area. Stakes are also placed at 50, 100, 150, and 200 meters into the field from the survey location stakes. Two of these stakes are water depth stakes (see below) and two are for assistance with counting birds. Bird detections do not to be separates by these distances.

SURVEY PROTOCOL AND DATA COLLECTION

**Surveys should not be conducted in weather with winds >24 mph (>5 on scale below), heavy fog (<200m visibility), or steady rain.

**Surveys should be conducted by one observer. Having multiple observers counting simultaneously may bias results. We recommend working in pairs where one person counts birds (Primary observer) and a second person records data (Other observer).

** Please get out of your vehicle to conduct counts.

**Read accompanying datasheet along with this protocol.

Each site, Yolo Bypass Wildlife Area (Yolo) and Cosumnes River Preserve (CRP), will be **surveyed twice a week**. Please consult the online calendar for your survey dates. You are welcome to modify the schedule after the training but must *allow two days* between each survey. Conduct each survey from the pre-defined **survey location** located at the edge of the rice field (see survey location map).

Begin each count of a survey area by indicating the **start time** on the datasheet. Then count and identify to species *all waterbirds* using the survey area. This includes birds that enter or leave the survey area during the count. For a bird to be considered "using" the survey area, it needs to be on the ground within the defined survey area for at least part of the time it takes to do the survey. Thus, birds that fly over the survey area but do not land in the survey area should NOT be counted. Also, birds rooting in internal field levees should NOT be counted. These detections can be recorded in the **Observation Notes.** Try not to double count birds if they leave and then re-enter the survey area.

Also, record the number and species of raptors that are in, perched adjacent to, or soaring over the survey area.

Survey areas that appear to have zero birds should be scanned for 2 minutes before continuing. Although there is no maximum time limit for counting birds, once all birds in the survey area have been recorded, the count is considered complete. At that point, note the **end time** on the datasheet and thereafter NO additional birds should be recorded for that survey area.

Species detections will be recorded in the appropriate column of the datasheet. Use the **Tally** column to keep track of the number of birds. After the count of an area is complete, sum up and record the total number of birds in the **Count** column. This is the number that should be entered into CADC.

Use the **Observation Notes** area for comments pertaining to species detections, identification, behavior and other observation related information. You can record birds roosting on internal field levees here.

Following bird observations, please fill out the remainder of the datasheet completely, including **Date** (mm/dd/yyyy), **Primary Observer,** full name of the person who counted birds, **Other Observer,** full name of others persons in the field who are *not counting birds,* and Site Conditions (e.g. **weather, habitat;** see below) before proceeding to the next survey location. Data should be recorded on a separate datasheet for each unique s**urvey location.**

SITE CONDITIONS:
Record observations of birds ***first*** then fill out site condition information.

Weather
Estimate **temperature (Temp)** in degrees Fahrenheit.

Use the following scale to estimate **wind speed (Wind)**. Please do not conduct surveys when wind speed is greater than 5.
0 – *calm*: smoke rises vertically
1 – *light air*: smoke drifts
2 – *light breeze*: felt on face, leaves rustle
3 – *gentle breeze*: leaves and small twigs in constant motion
4 – *moderate breeze*: dust, leaves, and loose paper rise up; small branches move
5 – *fresh breeze*: small trees sway

Record **Cloud cover (Cloud)** for each survey location according to the following scale:
0 – no clouds
1 – 1-25% cloud cover
2 – 26-50% cloud cover

3 – 51-75% cloud cover
4 – 76-100% cloud cover

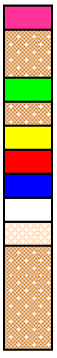
Describe **precipitation (Precip)** at each survey location using the following scale:
0 – none
1 – sprinkle
2 – mist
3 – drizzle
4 – steady rain
5 – fog

Habitat

Estimate the percent of each survey area that is:
flooded - completely covered in water, even a sheen of water is considered flooded
moist - no standing water but soil is saturated with water
dry- low or no moisture content visible in soil
***Note*: these types should sum to 100%

Estimate the percent of each survey area covered by emergent **vegetation** and record the **height** of the vegetation using the following scale:
0 – bare or no vegetation above surface of the water
1 – 1-3 inches
2 – 3-6 inches
3 – 6-9 inches
4 – 9-12 inches
5 – >12 inches

Record **water depth** using the water depth stakes at 100 and 200 meters. Each stake has seven bands and can measure up to 14 inches of water depth. The bottom of the band is the lower depth and the top of the band is the deeper depth. Estimate water depth to the inch.



0-2 in. – **bare wood**
2-4 in. – **white**
4-6 in. – **blue**
6-8 in. – **red**
8-10 in. – **yellow**
10-12 in. – **bare wood**
12-14 in. – **lime green**

Visit Notes

Use this area to record any additional details about factors that may have influenced the accuracy of your count. Such factors might include intense disturbance by raptors or large mammals (coyotes, dogs), machinery harvesting crops, crop dusters flying

overhead, etc. Also record factors that may have influenced your estimation of site conditions such as vegetation obscuring the water depth stakes, etc.

WHAT TO TAKE IN THE FIELD:

Site Map
Datasheets
Pencils
Binoculars
Scope and tripod
Thermometer
Watch
Sunscreen
Sun protection
Water
Field guide
Permit Placards

DATA ENTRY

Data should be entered directly into the FFSS project in CADC within a few days of the survey. Please see the FFSS CADC data entry protocol for instructions on how to register and enter data using CADC.

After entering and proofing your data, please send your datasheets to Khara Strum, c/o PRBO Conservation Science, 3820 Cypress Drive #11, Petaluma, CA 94954