**2018 Long-billed Curlew Survey Protocol: Montana (Region 4)**

**\*\*NOTE: There are some important changes in how we collect curlew data this year so please read this protocol carefully.** The most important is: if possible, PLEASE use Survey 123 to collect your data; you will be prompted to fill in data as you go, and many field have picklists so you don’t have to remember codes. Paper datasheets are available if you cannot use the App. Regardless the data collection method the protocol below describes how to collect (1) information at each stop (e.g.) weather, habitat, etc.) and (2) information on each bird observed (species, distance, bearing, etc.). The order in which data are recorded varies between Survey 123 and the paper datasheet so practice entering data using this protocol BEFORE you go into the field; contact Kristina if you have questions: ksmucker@mt.gov or 533-5262.

Another change: we will **only collect habitat data at the point on visit 1;** you should still collect habitat data for any birds detected. If you use Survey 123 and select visit 2 you will not have the option to enter habitat data at the point.

**Guidelines:**

* 2 Visits: 1st visit April 15 – May 9, 2nd visit May 10 – June 3; space the 2 visits at least 10 days apart.
* Survey between ¼ hour after sunrise and 4½ hours after sunrise *(~ 10 am*).
* Do not conduct surveys in the following weather conditions:
	+ Temperature >30°C (86°F)
	+ Consistent wind speed > 12 mph (> wind code 3, see below); note effects of higher winds on counts under count quality. Also note if wind gusts are present but not significantly impacting.
	+ Fog or precipitation that reduces visibility to <125 m.
* Most route maps show marked points – please stop as close as possible to the point marked on the map. If you are setting up a new route, the map will suggest a route but it is OK to alter it to maximize curlew habitat.
* Most routes have 10 stops, ½ mile apart (800m) with a total route length of ~4.5 miles.

\*\*Marking stop locations: if you are using paper datasheets you **must mark the stops on the map provided**. If using Survey123 it knows where you are if you have cell service; if no service, click on the map and place the pin yourself.

 **(1) At each survey stop, record**:

* Visit number, transect number/name, date
* Record the start time; temperature (°F), sky conditions, wind speed, and count quality *(see codes on back).*
* Record curlews that flush on arrival *(because you disturbed them);* record the distance you first saw them at.
* Conduct a 5-minute survey**, record each curlew observation on a separate line.** Listen and scan with binoculars to locate birds; be sure to look and listen in all directions.
* Record each bird one time only – do your best to keep track of birds if they are moving, if you’re not sure it’s a new bird don’t record it. If you observed it at the previous point, **record it on the point at which it was closest**.
* Record the following habitat information **within a 200-m radius of the point**:
	+ What is the Habitat Type(s)? *(see codes on back)*
	+ What is the Current Activity/ Land Use(s)? *(see codes on back)*

**(2) For each bird observed, record:**

* The species code: **LBCU** *(See other species of interest on back)*.
* The distance (meters) to each curlew; **record in 25m increments** (25, 50, 75…150, 175) **up to 200; then 100m increments** (300, 400…) up to 800m. The distance between 2 power poles is ~100m. If the bird moves during the survey period, record the **closest** distance.
* The bearing (direction): N, NE, E, etc. to the bird(s) (this is new!)
* Record how you detected the bird under How det? **V** – visual, **C** – calling, **VC** – visual & calling; we will not use the **F** – flyover code this year.
* If there is more than one curlew at the same distance, record the number of birds in the group.
* For each ***curlew or group of curlews*** observed record:
	+ What is the dominant Habitat Type **where the curlew is standing/flying**? *(see codes on back)*
	+ What was the Current Activity/ Land Use(s)? *(see codes on back)*

**Other species to record:** Burrowing Owl (BUOW), Short-eared Owl (SEOW), Sharp-tailed Grouse lek (STG lek), Marbled Godwit (MAGO), Upland Sandpiper (UPSA), Bobolink (BOBO)

**Weather and Habitat Codes**

**Temperature**

< 30 – Cold

Ch – Chilly (30 – 40)

Co – Cool (40 -50)

M – Mild (50 – 60)

C – Comfortable (60 – 70)

W – Warm (70 – 80)

**Wind Codes:**

0 – calm (< 1 mph)

1 – wind felt on face (1 – 3 mph)

2 – grass & leaves in motion (4 – 7 mph)

3 – small branches in motion (>13 mph)

**Sky conditions**:

C ‐ Clear, no clouds

PC ‐ Partly Cloudy, <30% cloud cover

CL ‐ Cloudy, 30‐50% cloud cover

O ‐ Overcast, >50% cloud cover

**Count Quality**:

E – Excellent (calm, quiet)

G – Good (some noise/ weather affects count)

P – Poor (reduced count quality)

**Dominant habitat type**: \*note: some codes have changed

N – Native grassland

I – Introduced grassland (e.g. CRP, crested wheatgrass, pasture)

C – Cropland

50/50 Grass-Cropland

O – Other (*describe in notes* e.g. sagebrush, house/ranch with non-native vegetation

**Current Activity or land use**:

G - Grazed (evidence of grazing)

U – Ungrazed or natural area

F ‐ Fallow

PC ‐ Planted crop

O ‐ Other (*describe in notes*)