**Long-billed Curlew Survey Protocol: Montana 2015. Mission Valley Area**

* Survey between April 8 and May 31.
* Survey anytime between just after sunrise and ~ noon, *a little longer if temperatures remain cool*.
* Do not conduct surveys in the following weather conditions:
	+ Temperature ~85°F
	+ Consistent wind speed >20 mph; note effects of higher winds on counts under count quality.
	+ Fog or precipitation that reduces visibility to ~ <125 meters.
* Sample ~ 10 locations, ½ mile or 800-m apart along primary or secondary roads. Try for at least 6 points, but as many as you can get in give the route and time.
* Use car odometer to measure between points. Or if know how to use GPS, you can create a waypoint at first stop and then use GPS to “find – nearest waypoint” and travel away for ~800m.

**At each survey stop location and on accompanying form**:

* Record the Route and stop number information. Route # will be provided; stop is 1 – 10.
* Record the count quality *(see below)* at each stop.
* If you have GPS, write down latitude/long WGS 84 (e.g. 44.45494, -114. 54935). If doing many routes and you know how to create a GPS waypoint you can download the lat/longs from your unit after. Label carefully!
* If no GPS please carefully mark a map!
* Record the start time of each survey stop.
* Record any curlews that flush on arrival and make note that they flew upon arrival.
* Conduct a 5-minute survey. Stand in one place and scan with binoculars to locate birds, use spotting scope if you have one to confirm sightings.
* Record each bird one time only. For each bird observed:
	+ Record how you detected the bird under How detect?: **V** – visual, **C** – calling, **F** - flyover
	+ Record the approximate distance (meters) to each ***curlew or group of curlews***. Don’t worry if it is just a guess. A distance and a direction are required for all curlew observations except Flyovers (marked as F).
	+ Record the total number of birds in the group. Group is defined as an aggregation of more than one bird
	+ Please – if at all possible, mark your birds on the map provided – pencil them in as best you can!
* For each ***curlew or group of curlews*** observed record **dominant land use/habitat** within an ~ 100-m radius of where you found the curlew(s).
* If you detect Curlews ***between points or before/after*** the 5 minute count, add to the closest point and add any relevant detail (where found and distance from you).
* Feel free to give us as much detail as you can for each point and overall survey effort!

**Count Quality**:

E – Excellent – quiet, good visibility, no wind, not interrupted by traffic, temperatures not too hot or cold

M – Moderate – light disturbance (wind, traffic, other noise), cold (< 32F or hot (> 75 F)

P – Poor – hard to hear or see for some reason, really cold or hot or wet!

**Dominant Land Use**

R – Rangeland/grassland; C – Cropland; S – Sagebrush steppe; O – Other (residential, forest – please describe)
 **Return form to:** Amy Cilimburg (amy@mtaudubon.org or Janene Lichtenberg (janene\_lichtenberg@skc.edu).

***Sample Data for one stop****:*
**STOP 1:** start time: \_\_6:35\_\_ Marked map: yes no. Lat: 44 . 59815 long - 114 . \_69844 Way point? \_no\_

**Curlews: NO YES** (circle one). If yes, numbers of curlews, distance to each individual or group, if flyover only, and how detected (Visual, Call, Both), and dominant cover (if you can): R, C, S O.

1 pair. 50 meters, north side of road. Detected via V - visual. Pecking around in R (rangeland). See marked map
1 individual – Flyover – 300 meters to the south (flew east to west)

If YES, **Count Quality**: Excellent Medium Low (*circle one*). Breezy but no big gusts. Two cars drove by during stop.