California Gnatcatcher Regional Survey Protocol

California Gnatcatchers will be surveyed using the wandering transect method, where we cover a 2.25 ha plot by walking slowly and methodically through the sage scrub habitat, looking and listening for gnatcatchers. The point is to determine whether or not the survey plot is occupied (part of a gnatcatcher's territory) or not, so there is no need to spend lots of time determining sex, age, or a count of all gnatcatchers on the plot. Your time will be much better spent making sure you are able to finish all of the surveys that you need to do within the survey period.

Survey Periods:
Each surveyor will be assigned a number of survey plots. Plots will be surveyed once during each of three survey periods:

1. 15 March – 31 March.
2. 1 April – 15 April.
3. 16 April – 30 April.

Vegetation will be quantified during the final 4-week period of the gnatcatcher season (1 May – 30 May.) This period may be extended in 2016 if rainy weather prevents completion of work within the 4-week period.

Survey 1:

1. When you first arrive at the parking spot, exit the car and begin an *optional* General Data record that records weather conditions (Temperature, Wind, Cloud Cover) and the Date and Time the survey day begins. Surveys will not be performed if the wind exceeds 12 mph/20 kph/4 on the Beaufort scale, if the temperature is below 40F/4.5C or above 90F/32C, or if precipitation is stronger than a drizzle. Any General Data you record is for your use; USGS will not be compiling it.
2. Walk/hike to the survey plot boundary, recording any incidental gnatcatchers by mapping them with a GPS or on the Juno (In ArcGIS, open the CAGN2016_YourLocation project, view map, wait for the GPS to register (upper right corner), then select "Tasks>Collect Features>CAGN Species"). Be sure to note that the CAGN was not detected within the plot.
3. At the survey plot boundary make a note of the date and your start time. If you are using a Juno open the CAGN2016_YourLocation project in ArcGIS. Then, while viewing the map, tap the "i" button in the upper right corner of your screen, draw a box around the point in the center of the survey plot, select the point labelled "Survey 1", select **Edit Feature**, and enter the observer name and enter the date and time start.
4. During this time, listen for gnatcatchers and allow the activity at the plot to settle.
5. Enter the plot and begin slowly and methodically walking through the plot, covering the entire area. Wait to broadcast a gnatcatcher vocalization until reaching the approximate center of one of the four quadrats of the plot (the vegetation plot center). Vocalization broadcasts should be standardized, with each vocalization bout lasting approximately 20 seconds, with a waiting period of approximately 1 minute in-place after broadcast to detect a response. Broadcast towards the center of the plot, not towards the outside boundaries, to minimize the potential for drawing birds in to the plot.

6. If a gnatcatcher is detected within the plot before the broadcast, the survey ends. In this case, make a note of survey end time, number of broadcasts (0 in this case), and record the location of the gnatcatcher, being sure to note that it was detected within the plot boundaries. If you're using a Juno, tap the "i" button on the ArcGIS map, and select the center point of the survey plot and select the survey you are doing (survey 1, survey 2, or survey 3). Select **Edit Feature** again, then complete the survey form, being sure to enter the **time end**, "Yes" for **CAGN observed**, and the number of times the vocalization was broadcast (0 in this case), and any relevant notes.
7. If a gnatcatcher is detected outside of the plot before the vocalization is broadcast, wait for 10 minutes to see if the gnatcatcher enters the plot. If the gnatcatcher is re-detected within 10 minutes, continue to wander the plot waiting for either the gnatcatcher to enter the plot or another gnatcatcher to be detected within the plot but do not broadcast the vocalization as long as <10 minutes have passed since the gnatcatcher was last detected.
8. If the gnatcatcher is not re-detected during the 10-minute waiting period, then the vocalization will be broadcast for approximately 20 seconds at the quadrat center.
9. No more than 4-6 vocalization bouts should be broadcast during the entire survey, generally near the vegetation quadrat centers, avoiding the plot boundaries.
10. Any time a gnatcatcher is detected within the plot, the survey ends, and ending data are entered into the survey plot point feature (for the Juno). Be sure to enter the **end time**, "Yes" for **CAGN observed**, and the number of times the vocalization was broadcast.
11. If no gnatcatcher is detected within the plot, surveys will last 45 minutes. After the 45 minutes, tap "i" on the ArcGIS map, select the plot center point, and enter the survey end time, No for CAGN observed, the number of times the vocalization was broadcast, and any relevant comments.
12. Any time a gnatcatcher is detected, the surveyor will collect a GPS coordinate: Collect Features>CAGN species (for Juno). If the gnatcatcher was detected within the plot, enter "CAGN and plot number" (for example "CAGN065" for a CAGN detected within point 65) for **PointType**, select "Yes" for **InPlot**, and in **Comments**, give specifics (age, sex, number) if known (again, do not spend extra time trying to determine this). If the gnatcatcher never enters the plot, select "No" for **InPlot** field, and simply enter "CAGN" (no plot number) for **PointType**.
13. If the survey ends and as you are walking away you hear a gnatcatcher vocalize within the plot, then that gnatcatcher counts as a detection during your survey. Edit your survey form (center point of the survey plot), update to "Yes" for **CAGN observed**, and update the survey end time. Also, update the CAGN location using your GPS if the CAGN was originally detected outside of the plot.
14. Enter any comments in the comments field that you find interesting/important. For example, nest found (collected GPS point), family group detected, habitat burned, no habitat present, gnatcatcher never entered plot, etc.
15. DO NOT APPROACH GNATCATCHER NESTS. We don't have permission to monitor gnatcatcher nests and it is not necessary for this project.
16. Proceed to your next survey plot.

<u>Surveys 2-3:</u>

Follow the same procedure as above, except in 3 (above), select the point for the survey # you

are doing (Survey 2 for 1-15 April, Survey 3 for 16-30 April).

Survey 4 (Vegetation Evaluation):

No survey is conducted during period 4, but you will return to your survey plots to collect vegetation information (see California Gnatcatcher Regional Vegetation Sampling Protocol).