JBWS Butterfly Phenology Cheat Sheet—
A Refresher on *Nature's Notebook* Protocols

Purpose and Audience for the Cheat Sheet

The JBWS Butterfly Phenology Cheat Sheet is a short summary of the *Nature's Notebook* observation protocols used in the JBWS butterfly phenology project. Note that it is not intended to be a substitute for an orientation with a project leader—the audience for the Cheat Sheet is volunteers who are 1) already familiar with the butterfly phenology project and 2) have attended an orientation with a project leader (formal or informal), but want to confirm their understanding of *Nature's Notebook* protocols.

Get ready to observe

Print and assemble datasheets:
   a. Print either
      i. Animal Checklist + Cover Sheet + Species-by-Species Datasheets (one species, multiple observation dates)
      ii. Animal Checklist + Day-by-Day Datasheet (one observation date, multiple species)
   b. Fill in administrative session data
      i. Time spent observing = time spent preparing to observe (e.g., printing datasheets, gathering tools) + time spent actually observing
      ii. Time spent in travel = time spent traveling from your home/work to the JBWS butterfly garden
      iii. Time spent looking for animals = time spent actually observing
      iv. Animal survey method = always "a" (area search)
      v. Report on snow (self-explanatory)

Gather tools:
   a. Watch or other timekeeping device
   b. Clipboard
   c. Datasheets
   d. Pen or pencil
   e. Binoculars (close-focus recommended)
   f. Field guides
      i. Cynthia's laminated guide to NN butterflies (in Plummer House, on low end-table)
      ii. Phenophase definition guides from NN website (printable from your Observation Deck on NN website)
      iii. *Butterflies Through Binoculars of the East* by Jeffrey Glassberg (in Plummer House, on shelves)
      iv. *Caterpillars of Eastern North America* by David L. Wagner (in Plummer House, on shelves)
   g. Camera (optional)
   h. Butterfly net/capture jar (optional)
   i. Sun protection
   j. Water

Observe in the field

Use the *area search* method - Make multiple passes through the butterfly garden, being as thorough as possible during the time you've allotted for your survey. Try not to stop for extended periods of time; i.e., avoid distractions like cell phone calls while you are observing.

    a. Look for butterflies and note what they are doing, for example:
        i. Flying over the garden
        ii. Nectaring on blossoms
        iii. Puddling on moist dirt
    b. Look for caterpillars and note what they are doing, for example:
        i. Eating leaves or stalks
        ii. Hiding inside curled leaves
        iii. Hiding along plant stems
        iv. Hiding on the undersurface of leaves
    c. Look for other phenophases (optional)
        i. Eggs laid on leaves
        ii. Chrysalises hanging from plants or other objects

Record phenophases observed for each species - the most common phenophases are:

    a. Active adults
    b. Flower visitation
    c. Active caterpillars
    d. Caterpillars feeding

Note the time that you stop observing.

Enter data online

Log on to *Nature's Notebook:*

    a. Use the username and password you created when you joined *Nature's Notebook*
    b. Navigate to -> My Observation Deck -> Enter Observation Data

Input data:

    a. Enter the administrative and observation data from each observation session
    b. Remember to enter "no's" for all the phenophases you did not see for each species ("negative data")

Other Helpful Resources

USA National Phenology Network Plant and Animal Observation Handbook: https://www.usanpn.org/files/shared/files/USA-NPN-HTOFull_8.27.13.pdf. *The full, detailed manual of all the protocols relevant to* Nature's Notebook*, written in plain language for* Nature's Notebook *volunteers. Nothing specific to Jug Bay here—but this is the most complete reference explaining the protocols we're using on the butterfly phenology project.*

Nature's Notebook login page: https://www.usanpn.org//user/login?destination=natures_notebook. *The starting point for* Nature's Notebook *data entry for volunteers. Log in with the username and password you created to access volunteer resources and the data entry portal.*