Western Monarch Overwintering Habitat Assessment (Long Form)

Please fill out as much information on this form as you can, but feel free to skip any field for which you do not have the right equipment or you are uncertain about the answer. Refer to the document *Western Monarch Overwintering Habitat Assessment Instructions* for more information about how to fill out this data sheet.

General Site Information
Date _____ Site Name _____ Site ID # _____

County _____ Property Owner _____

Observers _____Start Time _____ End Time _____

Current Land Use(s) (e.g., park, residential, agricultural, industrial, golf course)
_____

Location Information
Site Location/Directions_____
_____

Please provide GPS coordinates of the grove's boundaries. If the grove is an odd-shaped polygon or many cluster trees, please provide additional GPS points as needed, draw a map on the back of this sheet, or make a shapefile/kmz using Google Earth or GIS products.

GPS Point of Grove's Northern corner: _____N _____W Accuracy (ft): _____

GPS Point of Grove's Eastern corner: _____N _____W Accuracy (ft): _____

GPS Point of Grove's Western corner: _____N _____W Accuracy (ft): _____

GPS Point of Grove's Southern corner: _____N _____W Accuracy (ft): _____

GPS Point of Cluster tree #1: _____N _____W Accuracy (ft): _____

GPS Point of Cluster tree #2: _____ N _____W Accuracy (ft): ____

Datum of GPS Unit: __ NAD27 __ NAD83 __ WGS84 __ Smartphone __ Unknown __

Weather and Microclimate
Cloud/fog cover: ____ %

Precipitation: none / drizzle / rain / downpour

Microclimate INSIDE the grove, near the cluster trees
Temperature (°F or C): _____

Relative Humidity: _____

Average wind speed (mph, m/s or bft) _____ Maximum wind speed (mph, m/s or bft) _____

Wind Direction (direction wind is coming FROM), circle what applies: N, NE, NW, S, SE, SW, W, E

Wind OUTSIDE the grove, away from the cluster trees
Temperature (°F or C): _____

Relative Humidity: _____

Average wind speed (mph, m/s or bft) _____ Maximum wind speed (mph, m/s or bft) _____

Wind Direction (direction wind is coming FROM), circle what applies: N, NE, NW, S, SE, SW, W, E

Monarchs Observed? Yes / No
If so, is there an associated count data sheet? Yes / No

If not, roughly how many monarchs were observed? _____

Habitat Information
1. Is there a wind buffer between the cluster trees and the edge of the grove? Yes / No / No current cluster trees.
If so, in what directions (circle all that apply)? N, NE, NW, S, SE, SW, W, E

2. Describe the grove's tree arrangement (e.g., u-shape, linear along a drainage, dense grove with scattered openings, etc.) _____

3. What tree species are present? _____

4. Do the cluster trees get direct sunlight?   Yes / No / No current cluster trees. If so, during what times of day (circle those that apply)? Morning / Midday / Afternoon / Other _____

5. Are there dead/diseased/hazard trees in the grove?   Yes / No
If so, please describe their location, # of affected trees, and species _____
_____

6. Is there fresh water (including dew) available nearby? Yes / No
If so, what is the source? (check all that apply) Dew / Stream / Pond / Lake / Other _____
How far away is it from the cluster trees? (meters) _____

7. Are nectar plants currently blooming nearby?   Yes / No.
Record what species are present (check all that apply). If possible, rate the relative amount of blooms available to monarchs per species: A= abundant; M= moderate; S= scarce)

Native Species:	Native Species (cont.):	Non-native Species (cont.):
__Narrow leaf milkweed (*Asclepias fascicularis*)	__ Red alder (*Alnus rubra*)	__ English ivy (*Hedera helix*)
__ Mule fat/seep willow (*Baccharis glutinosa*)	__ Aster (*Aster* sp.)	__ German ivy (*Senecio mikanioides*)
	__ Seaside fleabane (*Erigeron glaucus*)	__ Passionflower vine (*Passiflora* sp.)
__ Coyote brush (*Baccharis pilularis*)	Other: _____	__ Bull thistle (*Cirsium vulgare*)
__ Arroyo willow (*Salix lasiolepis*)	_____	__ Wild radish (*Raphanus sativus*)
__ Other willow (*Salix* sp.)	_____	__ English daisy (*Bellis perennis*)
__ Monkeyflower (*Mimulus* sp.)		__ White nightshade (*Solanum nodiflorum*)
__ Morning glory (*Calystegia* sp.)	Non-native Species:	__ Ice plant (*Mesembryanthemum* sp.)
__ Miner's lettuce (*Montia perfoliata*)	__ Tropical milkweed (*Asclepias curassavica*)	__ Field bindweed (*Convolvulus arvensis*)
__ Dune groundsel/ragwort (*Senecio blochmaniae*)	__ Blue gum (*Eucalyptus globulus*)	__ Chrysanthemum (*Chrysanthemum* sp.)
__ Mock heather (*Ericameria ericoides*)	__ Red gum (*Eucalyptus camaldulensis*)	__ Klamath weed/tansy mustard (*Senecio* sp.)
__ Crisp dune mint (*Monardella crispa*)	__ Black mustard (*Brassica nigra*)	__ Lily-of-the-Nile (*Agapanthus africanus*)
__ California blackberry (*Rubus ursinus*)	__ Unknown or other mustard (*Brassica* sp.)	__ Sweet fennel (*Foeniculum vulgare*)
__ Manzanita (*Arctostaphylos* sp.)	__ Common dandelion (*Taraxacum officinale*)	__ Bottlebrush (*Callistemon* sp.)
__ Blue blossom (*Ceanothus thyrsiflorus*)	__ Ox-eye daisy (*Chrysanthemum leucanthemum*)	__ Lantana (*Lantana* sp.)
__ Western goldenrod (*Euthamia occidentalis*)	__ Periwinkle (*Vinca major*)	__ Lemon (*Citrus limon*)
__ Bluedicks (*Dichelostemma capitatum*)	__ Butterfly bush (*Buddleia* sp.)	__ Pride of madeira (*Echium fastuosum*)
		Other: _____
		_____
		_____

8. Roughly, how close is the closest nectar source from the monarch cluster trees? (meters) _____

9. Did you observe monarchs feeding on nectar? Yes / No
If yes, which species? _____

10. Record the tree species that monarchs are clustering on (check all that apply).

__ Blue gum (*Eucalyptus globulus*)	__ Coastal redwood (*Sequoia sempervirens*)
__ Red river gum (*Eucalyptus camaldulensis*)	__ Coast live oak *(Quercus agrifolia)*
__ Unknown or other Eucalyptus species (*Eucalyptus spp.*)	__ Western sycamore (*Platanus racemosa*)
__ Monterey pine (*Pinus radiata*)	__ Willow (*Salix spp*.)
__ Unknown or other pine (Pinus spp.)	__ Acacias (*Acacia spp*.)
__ Monterey cypress (*Cupressus macrocarpa*)	Other: _____

11. Record other tree species present at the site that monarchs are <u>not</u> clustering on (check all that apply).

__ Blue gum (*Eucalyptus globulus*)	__ Coastal redwood (*Sequoia sempervirens*)
__ Red river gum (*Eucalyptus camaldulensis*)	__ Coast live oak *(Quercus agrifolia)*
__ Unknown or other Eucalyptus species (*Eucalyptus spp.*)	__ Western sycamore (*Platanus racemosa*)
__ Monterey pine (*Pinus radiata*)	__ Willow (*Salix spp*.)
__ Unknown or other pine (Pinus spp.)	__ Acacias (*Acacia spp*.)
__ Monterey cypress *(Cupressus macrocarpa*)	Other: _____

12. Estimate the community structure composition (total can be >100% for all layers combined).
Tree cover _____%   Shrub cover _____%   Herbaceous cover _____% Leaf litter layer _____%
Bare soil cover _____%

13. Record any threats or disturbances you observe at the site (check all that apply).

__ Storm damage	__ Cattle/burro/other livestock grazing
__ Cut trees	__ Pesticide use at site (observed)
__ Trimmed trees	__ Pesticide use at site (likely)
__ Possibly too dense of trees (i.e. too much shade)	__ Fire damage
__ Trees diseased from pitch canker	__ Construction
__ Trees diseased from Eucalyptus leaf beetle	__ Buildings
__ Trees diseased from Eucalyptus lerp psyllid	__ Pavement
__ Trees diseased from Eucalyptus longhorn borer	__ Parking lot
__ Trees diseased from unknown source	__ Mowing/plowing of nectar plants
__ Dead/dying trees from non- disease source	__ Railroad tracks
__ Old/aging trees	__ Extensive trails
__ Utility maintenance	__ Road (within the site)
__ High human visitation load	Other: _____
__ Erosion	_____
__ Campsite	

14. Describe the disturbances/threats in greater detail, if possible. For example, if you observed dead/dying trees, how many did you observe and are they cluster trees? If the site is affected by erosion, what is the cause of the erosion? _____
_____

15. Record any threats or disturbances you observe OUTSIDE but nearby the site (check all that apply).

__ Roads/Highways	__ Parking lot
__ High vehicle traffic area	__ Pesticide/herbicide use in landscape (observed)
__ Housing Developments	__ Pesticide/herbicide use in landscape (likely)
__ Shopping Malls/Restaurants	__ Construction
__ Pavement	Other: _____

16. Record possible future threats that seem likely to affect this site (check all that apply).

__ High possibility that overwintering trees will be cut	__ Proposed expansion of facilities or buildings within the site
__ Site might become too dense/shady in the future	
__ Site might not offer enough wind protection in the future	Other: _____
__ Proposed housing development	_____

17. Is there a staff and/or docent presence at the site? Yes / No
If so, from what agencies/groups (list all that apply)? _____
_____

Photopoints
Camerapoint Description: _____
_____
Photopoint #1 Description: _____
_____
Photopoint #2 Description: _____
_____

Notes

Overall Site Sketch
Provide a sketch here or on the back of the datasheet; utilize aerial maps, ArcGIS, Google Earth, Google Maps, or other programs to provide a more detailed map of the site and its major features , including cluster locations, if possible).