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Appendix IV.1: PLEL/PLST Data Forms and Instructions

PLEL / PLST SALAMANDER SURVEY FORM INSTRUCTIONS

SITE REFERENCE INFORMATION PAGE

Site Information (Mandatory)

Project Name. See list of projects for your area.
Unit Number. See project map.
Site Number. Record site number searched within the same project unit. Number the sites in chronological order.
Estimated Habitat Dimension. Record dimensions (approximate length times width, in feet or m) of habitat polygon.
Estimated Habitat Acreage. Use conversion from square feet to acres (or square meters to hectares) listed on survey form.
Minimum Search Time. Record calculated minimum search time based on estimated habitat acreage.

Location and Topography (Mandatory)

Forest. Record National Forest or BLM Resource Area name.
District. Record Ranger District or BLM District.
Legal. Township, Range, Section #, 1/4 section (NW, NE, SW, SE), 1/16 section (i.e. 1/4 section of the 1/4 section -- NW, NE, SW, SE). See quad map.
Quad #. see list of quad maps for your area.
Quad name. name of specific quad map.
Elevation. Record to the nearest meter, using an altimeter.
Aspect. Record aspect that the slope faces, using a compass (0-360 degrees).
Slope %. Record slope of the habitat patch, using a clinometer.
UTM_E. Will be added by office personnel.
UTM_N. Will be added by office personnel.
Location description. Directions to the site, describe how to get to the habitat polygon, using information such as mileage, road / spur names, topography (drainages, benches, saddles, etc.), specifying unmarked road forks, etc.

Suitable Habitat Substrate and Canopy (Canopy closure is Mandatory, other measures are Optional)

Dominant Rock Size. Circle one.
Rock Shape. Circle one. **Rubble** = round, **Slate** = flat and platy, **Mixed** = both rubble and slate.
Surface Water. Is water in the stand near search area? Circle all that apply. **Seep, Pond, Stream, None.**
Cover Type and Class. For each cover type listed, record the cover class using the codes listed on the data form.
Canopy. For each canopy element listed, circle yes or no for presence/absence and estimate % cover of habitat polygon.
Stand Age. Circle one. **Pre-canopy** = 0-30 yrs, **Young** = 31-99 yrs, **Mature** = 100-199 yrs, **Old-growth** = 200+ yrs.
Canopy closure. (Mandatory) Record canopy closure using a spherical densiometer (type B, concave not convex) at each soil station. Record amount of canopy closure (i.e. number of dots blocked out by vegetation) in each of the four cardinal directions (N, S, E, W), then average and multiply by 1.04. Then record average across all 5 sites to get average for habitat area.

Attach a Topographic Map (Mandatory)
Show the suitable habitat polygon, area surveyed.

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PLEL / PLST SALAMANDER SURVEY DATA FORM
SITE REFERENCE INFORMATION

SITE INFORMATION (Mandatory)
Project Name: _____
Unit Number: _____ Site Number: _____
Estimated Habitat Dimension: _____ (ft or m) X _____ (ft or m) = _____ (ft^2 or m^2)
Estimated Habitat Acreage _____ (ft^2) X 0.00002295 = _____ (acres)
or _____ (m2) X 0.0001 = _____ (hectares)
Minimum Search Time (person hours): _____

LOCATION AND TOPOGRAPHY (Mandatory)

Forest: _____ District: _____
Legal:T_____ R_____ section _____ 1/4 sec_____ 1/16 sec_____
Quad #: _____ Quad Name: _____
Elevation: _____ Aspect: _____ Slope %: _____
UTM_E: _____ UTM_N: _____
Location Description:_____
_____
_____

SUITABLE HABITAT – SUBSTRATE AND CANOPY (Optional, Except Canopy Closure)

Dominant Rock Size (circle one)
Gravel (2-32mm)
Pebble (33-63mm)
Cobble (65-256mm)
Boulder (>256mm)

Rock Shape (circle one)
Rubble / Slate / Mixed

Surface Water (circle all that apply)
Seep / Pond / Stream / None

Cover Type	Cover Class	Cover Codes
Surface Rock	_____	0 = none
Moss	_____	1 = 1-25%
DWD	_____	2 = 26-50%
Litter	_____	3 = 51-75%
Lichen	_____	4 = 76-100%

Canopy (circle yes or no)			%
Conifer presence	yes	no	_____
Hardwood presence	yes	no	_____
Shrub presence	yes	no	_____

Stand Age (circle one): Pre-canopy (0-30 yrs) Young (31-99) Mature (100-199) Old-growth (200+)

Canopy Closure % **(Mandatory)**

	1	2	3	4	5	
N	_____	_____	_____	_____	_____	
S	_____	_____	_____	_____	_____	
E	_____	_____	_____	_____	_____	
W	_____	_____	_____	_____	_____	Average Across
Average	_____	_____	_____	_____	_____	Soil Stations
X 1.04	_____	_____	_____	_____	_____	_____

Attach a topo map that shows the suitable habitat polygon and TCS plot center.

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PLEL / PLST SALAMANDER SURVEY DATA FORM INSTRUCTIONS

FIELD VISIT INFORMATION PAGE

Site Information (Mandatory)

Project Name. See list of projects for your area.
Unit Number. See project map.
Site Number. Record the site number searched within the same project unit. Number the sites in chronological order.
Visit Number. Record the visit number (1, 2, or 3) for the Project-Unit-Site listed above.
Date. Month, Day, Year
Start Time. Record the time when you arrive at plot center and begin to take habitat measurements. Use military 24-hour clock.
End Time. Record the time when you are done collecting habitat measurements or the search is complete, whichever is latest. Use military 24-hour clock.
Actual Search Time. Record total minutes searched.
Acres Searched. Record actual acreage of area searched.

Weather and Soil Conditions (Mandatory)

Microclimate in Protocol. Circle one (**Yes** or **No**)
Sky. Circle one (**Clear, Partly cloudy, Very cloudy**).
Moisture. Circle one (**Dry, Foggy, Intermittent rain, Light rain, Heavy rain**).
Wind. Circle one (**None, Light, Moderate, Strong**).
Air Temperature. Record air temperature in ºC, taken at beginning, middle and end of search.
Relative Humidity. Record air relative humidity % using a sling psychrometer before beginning search for animals, at the middle of the search and then when search is finished. Record both wet bulb and dry bulb temperatures, then convert to % using a table.
Froze last night. Circle one (**Yes, No** or **Unknown**).

Soil Stations (Mandatory)

Soil temperature. Record soil temperature (ºC) at 10cm below the surface at each soil station using a soil thermometer. Rrecord the average.
Soil moisture. Enter the correct code (**D** = dry by touch, **M** = moist by touch). Take this measurement under the first layer of cover.

Minutes Sampled (by Observer) (Mandatory)

Observer(s). First initial, Last name.
Start time. Record the start time for each person searching.
End time. Record the end time for each person searching.
 # Minutes. Record the length of search time for each person, in minutes.
Total Minutes Searched. Sum up the search times for all participants.

Detections (Mandatory)

Species. Record the 4-letter code for each species observed.
Stage. Record the life stage for each animal captured (**J** = juvenile, **S** = subadult, **A** = Adult).
Cover object. Record the code for the cover object each salamander was found under. (Cover types: **1** = Rock, **2** = Moss, **3** = Downed woody debris, **4** = Leaf litter, **5** = Lichen)
Substrate type. Record the code for what the salamander was found sitting on. (Substrate types: **1** = Rock, **2** = Moss, **3** = Downed woody debris, **4** = Leaf litter, **5** = Lichen, **6** = Soil).

Comments: (on back of form) Record any unusual and/or helpful information, such as a piece of equipment was not working, sudden unrecorded weather change, etc.

Attach a Topographic Map (Mandatory)

Show the suitable habitat polygon, area surveyed, location of captures of PLEL or PLST, occupied habitat.

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PLEL / PLST SALAMANDER SURVEY DATA FORM
FIELD VISIT INFORMATION

SITE INFORMATION (Mandatory)

Project Name: _____

Unit Number: _____ Site Number: _____ Visit Number: _____

Date: _____ Start Time: _____ End Time: _____

Actual Search Time (person hours): _____ Acres Searched: _____

WEATHER AND SOIL CONDITIONS (Mandatory)

Met protocol for microclimate constraints? Yes No

Sky (circle one)
Clear / Partly Cloudy / Very Cloudy

Wind (circle one)
None / Light / Moderate / Strong

	Air Temp (°C)	Relative Humidity Wet bulb	Dry bulb	%
Start				
Middle				
End				

Moisture (circle one)
Dry / Foggy / Intermittent Rain / Light Rain / Heavy Rain

Froze last night? (circle one)
Yes No Unknown

Station Number

	1	2	3	4	5	Average
Soil temp. (°C)						
Soil moisture (D or M)						

Observer(s) **(Mandatory)**	Start time	End time	No. minutes
		Total minutes:	

Stage	Cover / Substrate
J = juvenile	1 = rock
S = subadult	2 = moss
A = adult	3 = DWD
	4 = litter
	5 = lichen
	6 = soil

DETECTIONS (Mandatory)

Species	Stage	Cover Object	Substrate	Species	Stage	Cover Object	Substrate

Attach topo map that shows the suitable habitat, area surveyed, and location of occupied sites.