

## APPENDICES

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VII.2 a&b	Larch Mountain salamander survey environmental data form.
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**Larch Mountain Salamander  
Transect and Habitat Patch Form Code Definition Sheet**

1. Project Name: Record the project name or Survey Area.
2. Date: Record day, month and year (e.g., 05May 1998)
3. Page: Enter the page number for each completed data form. At the end of the survey, record the total number of pages in the space following "OF".
4. State: Record either Washington (WA) or Oregon (OR)
5. County: Record the County where the survey is conducted.
6. UTM: Record Universal Transverse Mercator coordinates, north and east, to nearest m possible.
7. Quad: Record the name of the U.S.G.S. 7.5 minute Quad map.
8. Legal Description: Record Township, Range, Section and 1/4 Section.
9. Transect/Patch #: Record the Transect or Habitat Patch that will be surveyed.
10. Patch A Dist.: This entry should be completed only for surveying Habitat Patches that are outside belt transects. Record the distance (m) along the transect to Habitat Patch.
11. Patch B Dist.: This entry should be completed only for surveying Habitat Patches that are outside belt transects. Record the distance (m) from the transect to Habitat Patch.
12. Patch Azimuth.: This entry should be completed only for surveying Habitat Patches that are outside belt transects. Record the azimuth from the transect to the Habitat Patch.
13. Size Length: Record the length of the Transect or Habitat Patch to the nearest m
14. Size Width: Record the width of the Transect or Habitat Patch to the nearest m.
15. Inter-Transect Dist. Record the distance between neighboring transects.
16. Comments: Record any notes on specific features of transect or patch, or location.



## **Larch Mountain Salamander Environmental Data Form Code Sheet**

1. Surveyors: Starting with your name first, list the names of all people participating in the survey.
2. Page: Enter the page number for each completed data form. At the end of the survey, record the total number of pages in the space following "OF".
3. Project Name: Record the project name or Survey Area.
4. Date: Record day, month and year (e.g., 05May 1998)
5. Survey Number: Record which of the three surveys is being conducted (1,2 or 3).
6. State: Record either Washington (WA) or Oregon (OR)
7. County: Record the County where the survey is conducted.
8. UTM: Record Universal Transverse Mercator coordinates, north and east, to nearest m possible.
9. Quad: Record the name of the U.S.G.S. 7.5 minute Quad map.
10. Legal Description: Record Township, Range, Section and 1/4 Section.
11. Tran/Patch: Record the transect or habitat patch that is being surveyed.
12. T: Record the temperature to the nearest (°C). Transects will have a total of nine measurements (3 for each Cluster, A-C). Habitat patches will have three measurements (i.e., Cluster A).
13. M: Record the soil/substrate moisture condition (WET, MOIST, DRY). Transects will have a total of nine measurements (3 for each Cluster, A-C). Habitat patches will have three measurements (i.e., Cluster A).





**Larch Mountain Salamander (*Plethodon larselli*)  
Animal Survey Form Code Definition Sheet**

**Required elements are: 1- 21**

1. Surveyors: Starting with your own name first, list the names of all people participating in the survey in a given Survey Area.
2. Page: Enter the page number for each completed data form. At the end of the survey, record the total number of pages in the space following "OF".
3. Project Name: Record the project name or Survey Area.
4. Date: Record day, month and year (e.g., 05May 1998)
5. Survey Number: Record which of the three surveys is being conducted (1,2 or 3).
6. State: Record either Washington (WA) or Oregon (OR)
7. County: Record the County where the survey is conducted.
8. Quad: Record the name of the U.S.G.S. 7.5 minute Quad map.
9. Legal Description: Record Township, Range, Section and 1/4 Section.
10. UTM: Record Universal Transverse Mercator coordinates, north and east, to nearest m possible.
11. Begin Time: Record the time the survey was started.
12. End Time: Record the time the survey was completed.
13. Weather last 24 hrs.: Describe the weather over the last 24hrs. ( freezing temps, frost, rain, high winds, etc.)
14. Freezing Temperatures: Indicate whether there has been freezing temperatures during the past 72 hours. Record "yes" or "no".
15. Current Weather Conditions:
 

Skies	Clear, overcast, partly cloudy, drizzle, light rain, rain, snow
Temp.	Record the ambient temperature 1 m. Above ground (be certain to avoid direct sunlight when measuring temperature)
Wind	Calm, light, moderate, high
16. Transect Number: Record the transect that the animal is captured on.
17. Location: Record to the nearest meter the distance along the transect where the animal was captured.
18. Azim: If a habitat patch is surveyed outside of a belt transect indicate the azimuth from the transect line to the habitat patch.
19. Dist. If a habitat patch is surveyed outside of a belt transect indicate the distance from the transect line to the habitat patch to the nearest decimeter (10 cm).

## APPENDIX VII.3b

20. Species: Use four letter code of latin binomial; first two letters of the genus and first two letters of the specific name. For example: *Plethodon larselli* would be recorded as PLLA.
21. Stage: Categories will vary among species, but will include the following: AD = adult, SA = sub-adult, JUV = juvenile

### **Optional elements are: 22 - 30**

22. ID #: Assign specific ID #s to all animals retained as vouchers specimens.
23. Habitat: Con = conifer, DEC = deciduous, MIX = mixed con/dec, TALUS, CLIFF, STREAM, SEEP, SPZ = splash zone (e.g., an area adjacent to a waterfall where there is a constant misting or light spray), POND, BANK, OTH = specify in notes.
24. SVL: Snout-vent length is measured in millimeters (mm). It is defined as the distance from the tip of the snout to the anterior margin of the vent.
25. TL: Total length is measured in millimeters (mm). It is defined as the distance between the tip of the snout to the tip of the tail.
26. Microhab: Record the microhabitat where the animal was captured. BH = bark heap, RP = rock pile, ROC = rock outcrop, SNAG, Wood (see description under Cover Object), OTH = give detailed description in notebook.
27. Cover Object: Cover objects are defined as the object under which the animal was found.  
ROCK: Grav = gravel; COB = cobble; Boul = boulder,  
WOOD: Bark; Slab = non-round; Bran = <10cm dia. LOG1 = 11-25 cm dia.;  
LOG2 = 26-50cm. dia.; LOG3 = 51-100cm. dia.; LOG4 = >100
28. Sur. Rock: Record if surface rock is present within the microhabitat where the animal was captured.
29. % Slope at level slope measured down aspect. Measurements should be taken over the longest distance possible. Do not include land of a different slope than that where the animal was captured.
30. Aspect: Cardinal directions and combinations ( e.g., N, NE, S, SW)



**Larch Mountain Salamander  
Survey Effort Form Code Definition Sheet**

1. Project Name: Record the project name or Survey Area.
2. Page: Enter the page number for each completed data form. At the end of the survey, record the total number of pages in the space following "OF".
3. State: Record either Washington (WA) or Oregon (OR)
4. County: Record the County where the survey is conducted.
5. UTM: Record Universal Transverse Mercator coordinates, north and east, to nearest m possible.
6. Quad: Record the name of the U.S.G.S. 7.5 minute Quad map.
7. Legal Description: Record Township, Range, Section and 1/4 Section.
8. Transect/Patch #: Record the Transect or Habitat Patch where the animal was captured.
9. Date: Record day, month and year (e.g., 05May 1998)
10. Size Length: Record the length of the Transect or Habitat Patch to the nearest m
11. Size Width: Record the width of the Transect or Habitat Patch to the nearest m.
12. Breaks: Record breaks from surveying (e.g., lunch, rests, consultations).
13. Begin Time: Record the time that surveying or breaks begin.
14. End Time: Record the time that surveying or breaks end.
15. Total Time: Record the total time spent surveying or on break.
16. End Location: Record distance (location) along transect (or patch) where survey ended for the day.
17. Completed: Record if the survey of the transect or patch was completed ("yes" or "no").

**APPENDIX VII.5**

Equipment list for performing surveys for the Larch Mountain salamander.

Equipment	Number (per crew member)	Use
compass	1	installing transects and determining aspect of survey sites and capture locations.
Flagging	several (3 colors)	marking transects and capture locations
measuring tape	1- 50 or 100 m	transect installation and measuring distance of habitat patches and capture locations.
String box (hip chain)	1	described above for measuring tape
Clinometer (optional)	1	measure gradient of site
Clipboard	1	hold data forms
pencil & markers	3 each	writing on data forms and flagging
thermometer	2	measure microclimatic conditions
garden trowel	1	dig soil pits to evaluate moisture
rulers (15 cm, optional)	3	measure captured animals
plastic bags	several	secure captured animals for measuring
rigid plastic container	2	hold retained specimens
water resistant paper	12 notebooks	record field notes
data forms/code sheets	complete sets	record field data
collapsible cooler	1	keep retained animals cool
field guides	1 or 2	aid in identifications
back pack (day)	1	carry field equipment and personal gear