#### SALAMANDER CENSUSING INSTRUCTIONS

#### **Strip Censusing**

- Strip censuses for salamanders will be conducted on rainy nights in June when the woods are dripping wet.
- On the first three rainy nights all of the bird census lines (4200m) will be censused. From these censuses, the five most and five least populous 100m sections will be identified and these sections will be censused on three additional nights.
- 3. Censuses will begin after 2000 hours.
- 4. Crews will consist of two people. Three crews are necessary to census 4200m in a reasonable time.
- 5. To census a line, the crew members walk beside each other, slowly scanning a 2m-wide strip centered on the census line. Salamanders >1m from the census line are not counted; thus the effective census area is 2m wide x 4200m long = 8400m².
- 6. For each block (100m of census line) the block number and beginning time are recorded. Record the ending time if it is not the same as the beginning time for the next block.
- 7. The species of salamander and number of individuals (use slashes) are recorded for each block. If any individuals are above the ground, their height should be estimated in centimeters. If no individuals are found write "None" in the species block. Place any unidentifiable specimen in a plastic bag and bring it back to the field station.

### **Quadrat Searching**

- 1. On the day following the strip censuses 40 randomly located 1m<sup>2</sup> quadrats will be searched for salamanders. One search will be conducted in each block.
- 2. The plots will be located by reference to a four-digit number from a random number table. Record the random number in the left margin. The first two digits will determine how many meters to proceed into a block along the transect line. The third digit determines whether the quadrat is on the right (even number) or left (odd number). The fourth digit determines the perpendicular distance from the transect line to the 1m² quadrat center.
- 3. The quadrat is delineated by a collapsible PVC frame. Because it is possible that salamanders will move deeper

into the litter in response to disturbance, it is advisable to talk quietly and walk softly during the following steps.

4. Vegetative characteristics will be determined as follows:

Tree layer (>5m): % coverage (nearest 10%)

dominant species

Shrub layer (1-5m): % coverage dominant species Herb layer (<1m): % coverage dominant species

Ground cover: % each component

See "Relevé Instructions" for how to estimate percentage coverage. A species must account for at least 25% of the strata coverage to be considered dominant. Write "mixed" if no species is dominant. The ground cover components are: dry litter, wet litter, log, tree bole, tree root, moss, lichens, soil, rock, and water (see "Tree Regeneration Instructions" for more detailed definitions).

- 5. Sift through all leaf litter and the loose organic pad searching for salamanders. Begin by removing the litter from the perimeter of the quadrat in case salamanders try to escape by moving laterally. Turn over rocks; tear apart rotten logs. Remove material as it is searched.
- 6. Identify and count all salamanders found. If a female with a clutch is found count the number of eggs and describe its location as precisely as possible (e.g., species of log, depth in log, etc.). If no salamanders are found write "None" in the species column.
- 7. Replace the litter and salamanders on the quadrat.

### Equipment

Flashlights or headlamps

Clipboard

Pencils

Watch

Tape measure

Date: archive

Compass

Data sheets

Plastic bags and labels

Quadrat frame

File name: Herparch.ins

Figure 4-14. Archive salamander strip censusing data sheet.

# HOLT RESEARCH FOREST SALAMANDER STRIP CENSUSING

Date 13 JUN 83 Observers AJK, JWW Weather Cool, dark

Block Number	Time Begin	Time End	Species	Number	Height		
<b>3</b> J	2010	,	None				
31	2014		None				
3 H	2029		Kedback S.	ui (	15, 20		
36	2046		Redback S.	1111 1	50, 10, 40		
			Toad	ı			
3F	2052		Kedbuck S.	11	25,20		
3E	2107	2117	Redback S.	### 111	15,5,25,30,50		
40	2128	-	None				
4 E	2139		Redbuck S.	ı			
4F	2151		wood frog	-t			
46	2202	2211	None				
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Figure 4-15. Archive salamander quadrat search data sheet.

## HOLT RESEARCH FOREST SALAMANDER QUADRAT SEARCH

Date 14 JUN 83 Observers MLH JWW Weather drizzle, cool

Location   Species   Number   Number												
0463 3I4 None 80 WP/RO 60 Gayluss. 5 Vacc. 30 tree bole 11chen 50 dry litter  6875 3H1 None 40 RO/WP 10 BF 15 Ly. obsc. 80 dry litter  1131 363 Redback 2 75 RM 0 - 30 Amenoma 30 log Panax 70 wetlitter  7812 3F1 Redback 1 100 WP 15 WP 10 Aralia 100 dry litter  2239 3E 5 None 85 RO 20 RS 30 Juniperus 40 moss 10 log II chen 50 dry litter		Location	Species	Number			1		1		1	
0463 3I4 None 80 WP/RU 60 Gayluss. 5 Vacc. 30 tree bole 1ichen  6875 3H1 None 40 RO/WP 10 BF 15 Ly. obsc. 80 dry litter  1131 3G3 Redback 2 75 RM 0 - 30 Frank 70 wetlitter  7812 3F1 Redback 1 100 WP 15 WP 10 Aralia 100 dry litter  2239 3E5 None 85 RO 20 RS 30 Juniperus 40 moss 11 chen  50 dry litter  7913 404 Redback 1 10 HM 0 - 20 Mixed 100 Juliter	5489	3J2	Redbuck	1	85	RM	40	Corylus	20	Majorthen	10	rock
0463 314 None										Gaulthein		dry litter
6875 3H1 None 40 RO/WP 10 BF 15 Ly. obsc. 20 moss moss Ly. obsc. 20 dry litter  1131 363 Redback 2 75 RM 0 - 30 Amenome 30 log wetlitter  1812 3F1 Redback 1 100 WP 15 WP 10 Aralia 100 dry litter  2239 3E5 None 85 RO 20 RS 30 Juniperus 40 moss 10 lichen  50 dry Her  4913 404 Redback 1 10 HM 0 - 20 Mixed 100 July Her	0463	314	None		80	WP/RU	60	Gayluss.	5	vacc. angust.		tree bole lichen
1131 363 Redback 2 75 RM 0 - 30 Amenome 30 1 og wetlitter  1131 363 Redback 1 100 WP 15 WP 10 Aralia 100 day litter  1239 3E 5 None 85 RO 20 RS 30 Imperus 40 moss 11 chen  1913 404 Kedback 1 10 HM 0 - 20 Mixed 100 Lighter												dry
1812 3F1 Redback 1 100 WP 15 WP 10 Aralia 100 dry litter  2239 3E 5 None 85 RO 20 RS 30 Imperus 40 moss 11 chen  50 dry Her  4913 404 Kedback 1 10 HM 0 - 20 Mixed 100 Lry Her	6875	3H1	None		40	RO/WP	10	BF	15	Ly. obsc.		moss dry litter
2239 3E 5 None 85 RO 20 RS 30 Imiperus 40 moss in lichen  50 dry Her  4913 404 Kedback 1 40 HM 0 - 20 Mixed 100 Lighter	1131	3G 3	Redback	2	75	RM	O	ſ	30	Anenome Panax		uetlitter
2239 3E 3 None 85 KO 20 KS 30 simples 10 lichen 50 dry Her 1913 404 Kedback 1 40 HM 0 - 20 Mixed 100 singles 11 Her	1812	3F1	Redback	1	100	wρ	15	wp	10			
4913 404 Kedback 1 10 HM 0 - 20 Mixed 100 11/Her	2239	3E3	None		85	RO	20	RS	<b>3</b> 0	Juniperus		
			-								50	dryHer
	4913	404	Ked back	1 .	10	HM	٥	-	20	Mixed	100	in Her
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