SALAMANDER SHINGLE STATION INSTRUCTIONS

Introduction

Estimating salamander populations is difficult. We have set up permanent stations along two transects using cedar shingles which act as refugia. Periodically throughout the field season (May–October) each station is checked and data recorded for the salamanders found under the shingles.

Sixty salamander shingle stations are located south of the S-1 lines, thirty each along the north and south lines. Each station is composed of six shingles arranged in two rows of three in a $1m^2$ area. The shingles are numbered by their position in the array as shown in Figure 4–12.

Procedure

1. Walk the S-1 lines. The stations are all south of the S-1 and are marked with a large yellow flag with a number on it. The number is the distance along the S-1 starting from the west end.
2. At the station, check the shingles in numerical order to avoid overlooking one. Push aside any litter and carefully turn over one shingle at a time. When a salamander is found, put it in a resealable bag moistened with some water. Do not put salamanders from different shingles in the bag together.
3. For each salamander, record the following three data items in the block for the appropriate station and shingle number (see Figure 4–13).

   Color phase. It will probably be either the red-back (RB) or lead-back (LB) color phase of the red-backed salamander (*Plethodon cinereus*).

   Snout-vent length. Measure in millimeters the straight distance from the end of its nose to its vent. Sometimes rolling it into a fold or the end of the bag helps keep the salamander from curling around.

   Sex. Sex is determined for *Plethodon cinereus* by the shape of the nose. Females are roundish, males are blunt.

Female Male

If two salamanders are found under one shingle, record the data in a nearby empty space and make it clear which shingle it came from.

4. Return the salamander to its shingle. Replace each shingle after it is checked, but do not re-cover it with litter. If salamanders are found above the shingle or in the duff around it, do not count them. Count only salamanders under the shingle.

Equipment

Clipboard and data sheet
Small resealable bag moistened inside
Clear ruler

Date: 13 JUL 92

File name: SALSHING.INS

Figure 4–13. Salamander shingle data sheet.

HOLT RESEARCH FOREST
SALAMANDER SHINGLE COUNT

Date 25 Sep 92 Observer EHM

Line	Station	SHINGLE NUMBER 1	2	3	4	5	6	Line	Station	SHINGLE NUMBER 1	2	3	4	5	6
North	5	–	–	–	RB ♂ 44	–	RB ♂ 280	South	5	–	–	–	–	–	–
North	20	–	–	–	–	–	–	South	60	–	–	–	–	–	–
North	35	–	–	–	–	–	–	South	70	–	–	–	–	–	–
North	70	–	–	–	–	RB ♀ 20	–	South	80	–	–	RB ♀ 30	–	–	–
North	80	–	–	–	–	–	–	South	90	–	–	–	–	*	LB ♀ 26*
North	90	–	–	RB ♀ 40*	–	–	–	South	105	–	–	–	–	–	–
North	100	RB ♀ 42	–	–	–	RB ♀ 30*	–	South	135	–	–	–	–	–	–
North	110	–	–	–	–	RB ♀ 41	RB ♂ 31	South	165	–	–	RB ♀ 43	–	–	–
North	120	–	LB ♀ 29	RB ♀ 26*	–	–	–	South	175	–	–	–	–	–	–
North	165	–	–	–	–	–	–	South	185	–	–	–	–	–	–
North	190	–	–	–	–	–	–	South	195	–	–	*	LB ♀ 28	–	–
North	220	LB ♂ 41 *	–	–	–	–	–	South	225	–	–	LB ♀ 44	–	–	–
North	230	–	–	–	–	–	–	South	245	–	–	–	–	–	–
North	245	–	–	–	–	–	–	South	265	–	–	*	–	LB ♀ 31	–
North	260	–	–	–	–	–	–	South	280	–	–	–	–	–	LB ♀ 35
North	280	–	–	–	–	–	–	South	290	–	–	–	–	–	RB ♂ 350
North	325	–	LB ♀ 41	–	–	–	–	South	325	RB ♂ 26	–	–	–	RB ♂ 42	–
North	340	RB ♀ 38	–	–	–	–	–	South	345	–	–	–	–	RB ♂ 380	LB ♀ 27
North	360	–	–	–	–	–	–	South	365	RB ♂ 380	–	–	–	–	–
North	380	–	–	–	–	–	–	South	380	LB ♀ 31 *	–	–	–	–	–
North	395	–	RB ♀ 26	–	–	–	RB ♀ 39	South	415	–	–	–	–	–	–
North	410	–	–	–	–	–	–	South	430	–	–	–	–	–	*
North	440	–	–	–	–	–	–	South	445	–	–	–	–	*	–
North	470	–	–	–	–	–	–	South	480	–	–	–	–	–	–
North	495	–	*	–	–	–	–	South	495	–	–	–	–	–	–
North	508	–	–	–	–	LB ♂ 40	–	South	505	–	–	–	–	–	–
North	520	–	–	RB ♂ 40	–	–	*	South	520	–	–	–	–	–	–
North	535	–	–	–	–	–	–	South	560	–	–	–	–	–	–
North	560	–	–	–	–	–	–	South	575	–	–	–	–	–	–
North	580	–	–	–	–	–	–	South	595	–	–	–	–	–	–

* needs new shingle