

| | Yr 0 | Yr 1 | Yr 2 | Yr 3 | Yr 4 | Yr 5 | Yr 6 | Yr 7 | Yr 8 | Yr 9 | Yr 10 | Yr 11 | Yr 12 | Yr 13 | Yr 14 | Yr 15 | Yr 16 |
|--------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Age 0 | 0 | 52.00 | 14.82 | 27.04 | 23.12 | 18.45 | 20.04 | 16.45 | 15.89 | 14.49 | 13.14 | 12.25 | 11.13 | 10.26 | 9.42 | 8.63 | 7.94 |
| Age 1 | 10 | 0.00 | 10.40 | 2.96 | 5.41 | 4.62 | 3.69 | 4.01 | 3.29 | 3.18 | 2.90 | 2.63 | 2.45 | 2.23 | 2.05 | 1.88 | 1.73 |
| Age 2 | 10 | 5.70 | 0.00 | 5.93 | 1.69 | 3.08 | 2.64 | 2.10 | 2.28 | 1.88 | 1.81 | 1.65 | 1.50 | 1.40 | 1.27 | 1.17 | 1.07 |
| N | 20 | 57.70 | 25.22 | 35.93 | 30.22 | 26.16 | 26.36 | 22.56 | 21.46 | 19.54 | 17.85 | 16.52 | 15.07 | 13.88 | 12.74 | 11.69 | 10.74 |
| lambda | NA | 2.89 | 0.44 | 1.42 | 0.84 | 0.87 | 1.01 | 0.86 | 0.95 | 0.91 | 0.91 | 0.93 | 0.91 | 0.92 | 0.92 | 0.92 | 0.92 |

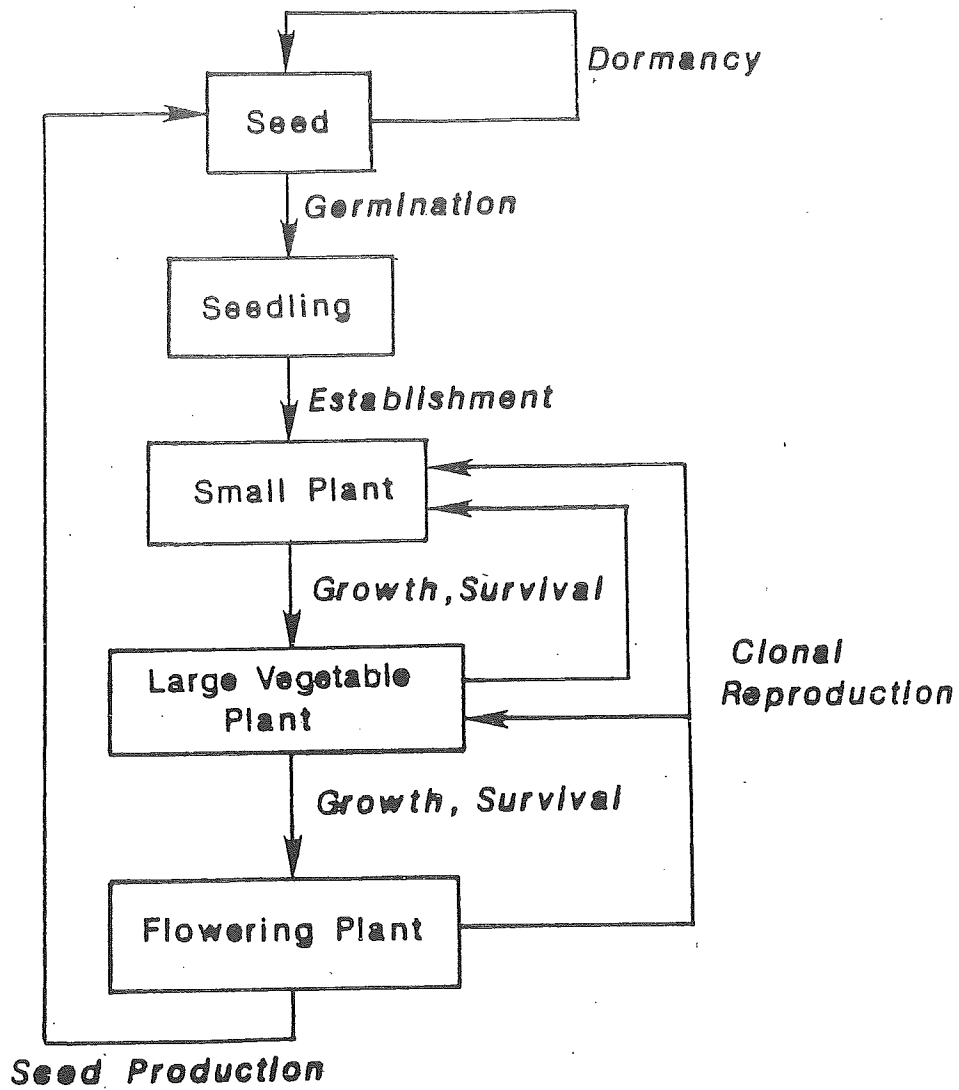


Figure 4. General life cycle for a perennial plant with vegetative reproduction. The boxes identify stages in the life history and the arrows identify annual transitions.

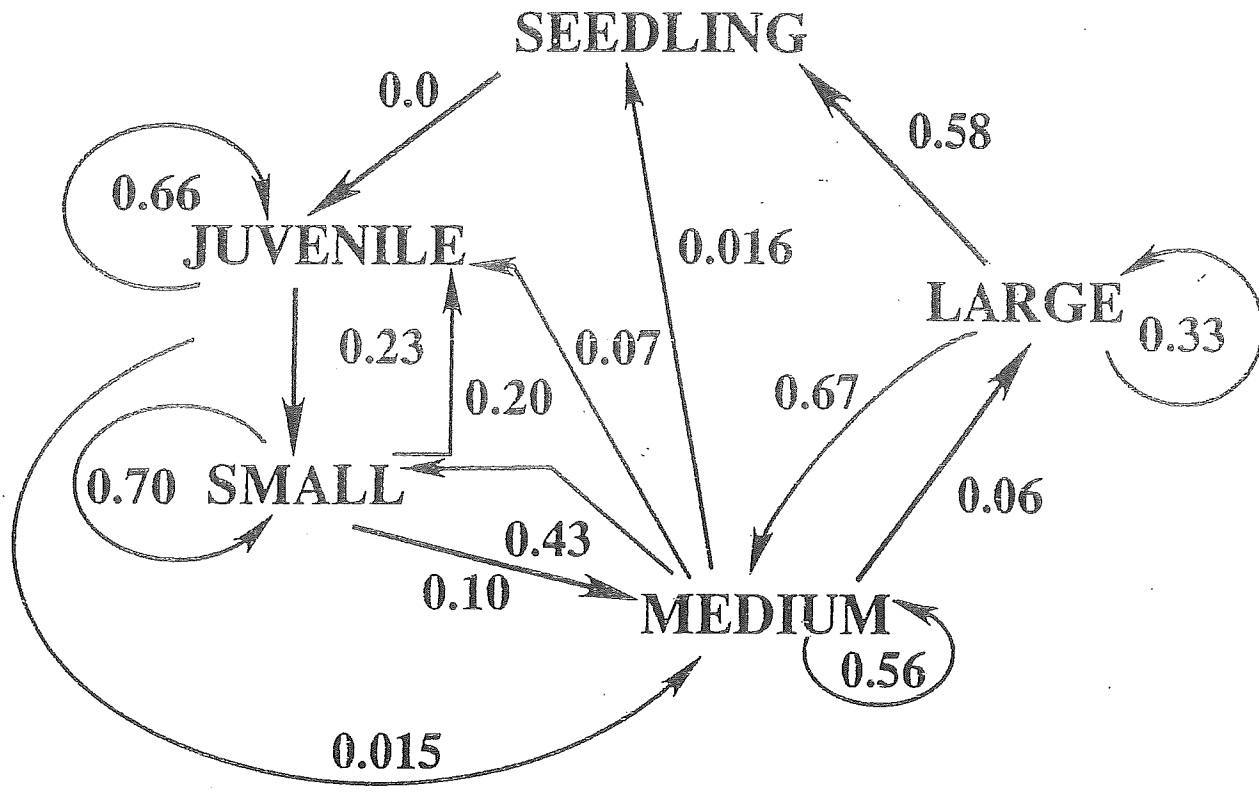


Figure 5. Life cycle diagram for Northern Monkshood. Each arrow represents a transition between stages in the life cycle. Numbers give the expected number of individuals making each transition. Transitions to the seedling stage are fecundities; transitions to other stages combine survival and growth. Data are for the M site, pooled over four years.

Table 8. Transition matrix corresponding to the life cycle diagram in Figure 4. Each element is the probability that one individual in the "From" size class will produce one individual in the "To" size class next year. The first row of the matrix contains fecundities; subsequent rows contain survival and growth probabilities. Survival and growth probabilities may add to more than 1.0 because of clonal reproduction. Data are for the M site, pooled over four years.

| To: \ From: | seedling | juvenile | small | medium | large |
|-------------|----------|----------|-------|--------|-------|
| seedling | 0.0 | 0.0 | 0.0 | 0.016 | 0.58 |
| juvenile | 0.0 | 0.66 | 0.20 | 0.08 | 0.0 |
| small | 0.0 | 0.23 | 0.70 | 0.43 | 0.0 |
| medium | 0.0 | 0.015 | 0.10 | 0.57 | 0.67 |
| large | 0.0 | 0.0 | 0.0 | 0.06 | 0.33 |